Ecosystem Restoration Program - 2002 Proposal Solicitation Package (PSP): Form I - Project Information

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1. **Proposal Title**:(there is no limitation on the number of characters)

   Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

2. **List all proposal applicants.**

First Name	Last Name	Organization
Dawit	Zeleke	The Nature Conservancy
Greg	Golet	The Nature Conservancy
Cathy	Morris	The Nature Conservancy
Ryan	Luster	The Nature Conservancy
Dave	Jukkola	The Nature Conservancy
Luis	Ojeda	The Nature Conservancy
Gildardo	Punzo	The Nature Conservancy
Jan	Karolyi	The Nature Conservancy

3. **Corresponding Contact Person:** (Show name of primary contact person even if they are already listed in question 2. The corresponding contact person should be the individual to whom award letters will be sent.)

First Name:	Wendie
Last Name:	Duron
Organization:	The Nature Conservancy
Address:	500 Main Street, Chico, CA 95926
Phone: (including area code)	(530) 897-6376
Email:	wduron@tnc.org

4. **Project Keywords**- Please select three keywords to describe your project. Different browsers handle mutiple select lists differently. In general, PC users should use CTRL + left mouse button; Mac users should use the Command + mouse button.

   Fish, Anadromous
   Habitat Restoration, Riparian
   Revegetation

5. **Type of project** (*choose the one that best fits your overall project*):

   - Research

   - Monitoring

   Restoration
   X Planning (Restoration or Engineering)
   – Implementation: Pilot/Demo
   – Implementation: Full Scale

   - Education

   - Fish Screen/Ladder Construction

6. **Does the project involve land acquisition, either in fee or through a conservation easement?**

   - Yes **X** No

   If yes, is there an existing specific restoration plan for this site?

   - Yes - No

7. **Topic Area** *(check only one box)*

   - At-Risk Species Assessments
   - Importance of the Delta for Salmon
   - Diversion Effects of Pumps
   - Fish Screens
   - Natural Flow Regimes
   - X2 Relationships
   - Decline in Productivity
   - Channel Dynamics and Sediment Transport
   X Riparian Habitat
   - Floodplains and Bypasses as Ecosystem Tools
   - Shallow Water, Tidal and Marsh Habitat
   - Uplands and Wildlife Friendly Agriculture
   - Fish Passage
   - Non-Native Invasive Species
   - Ecosystem Water and Sediment Quality
   - Environmental Education

8. **Type of applicant** *(check only one box)*

- Landowner	- Local Agency	**X** Private non-profit	- Private for profit	- Tribe
- University	- Joint Venture	- State Agency	- Federal Agency	

9. **Location - GIS coordinates** *(Provide geographic coordinates (northing/easting in latitude/longitude (decimal degrees)) for your project's centroid.) If you do not have a GPS or GIS to find the coordinates of the centroid of your project, you may use the TIGER Map Service.*
Provide the following information for your proposed project. Leave lat/long boxes blank if your project fits the "Multi-region (independent of specific site) Code 15: Landscape" category shown under Question 10 Location - Ecozone. For projects in multiple adjacent Ecozones, please provide your best estimate of the approximate center point. Please do not add any directional characters (e.g. N, S, E, W). Please enter numbers only.

Latitude: (example: 38.575; must be between 30 and 45)	**39.7118**	(decimal degrees to the nearest 0.001)
Longitude: (example: -121.488; must be between -120 and -130)	**-121.9350**	(decimal degrees to the nearest 0.001)
Datum (e.g., NAD27, NAD83) (if known--leave blank if unknown)	**NAD27**	

Describe project location using information such as water bodies, river miles, road intersections, landmarks, and size in acres.

> The project area is located on the eastern side of the Sacramento River between river miles 193.56 and 194.8. River Road runs through the project area, as does Mud Creek, Big Chico Creek borders the project area to the east. The project area is approximately 311 acres.

10. **Location - Ecozone**
Background Maps:
    - CALFED Regions and ERP Geographic Scope
    - ERP Geographic Scope and Ecological Management Units
    - Sacramento Region Ecological Management Zones
    - San Joaquin Region Ecological Management Zones
    - Delta Region Ecological Management Zones
    - Bay Region Ecological Management Zones

(check all that apply)

Sacramento Region
Ecozone 3: Sacramento River
- 3.1 Keswick Dam to Red Bluff Diversion Dam
X 3.2 Red Bluff Diversion Dam to Chico Landing
X 3.3 Chico Landing to Colusa
- 3.4 Colusa to Verona
- 3.5 Verona to Sacramento

Ecozone 4: North Sacramento Valley
- 4.1 Clear Creek
- 4.2 Cow Creek
- 4.3 Bear Creek
- 4.4 Battle Creek

Ecozone 5: Cottonwood Creek
- 5.1 Upper Cottonwood Creek
- 5.2 Lower Cottonwood Creek

Ecozone 6: Colusa Basin
- 6.1 Stony Creek
- 6.2 Elder Creek
- 6.3 Thomas Creek
- 6.4 Colusa Basin

Ecozone 7: Butte Basin
- 7.1 Paynes Creek
- 7.2 Antelope Creek
- 7.3 Mill Creek
- 7.4 Deer Creek
- 7.5 Big Chico Creek
- 7.6 Butte Creek
- 7.7 Butte Sink

Ecozone 8: Feather River & Sutter Basin
- 8.1 Feather River
- 8.2 Yuba River
- 8.3 Bear River and Honcut Creek
- 8.4 Sutter Bypass

Ecozone 9: American River Basin
- 9.1 American Basin
- 9.2 Lower American River

Ecozone 10: Yolo Basin
- 10.1 Cache Creek
- 10.2 Putah Creek
- 10.3 Solano
- 10.4 Willow Slough

San Joaquin Region

Ecozone 12: San Joaquin River
- 12.1 Vernalis to Merced River
- 12.2 Merced River to Mendota Pool
- 12.3 Mendota Pool to Gravelly Ford
- 12.4 Gravelly Ford to Friant Dam

Ecozone 13: East San Joaquin Basin
- 13.1 Stanislaus River
- 13.2 Tuolumne River
- 13.3 Merced River

Ecozone 14: West San Joaquin Basin
- West San Joaquin Basin

Delta & East Side Tributaries Region
Ecozone 1: Sacramento-San Joaquin Delta
- 1.1 North Delta
- 1.2 East Delta
- 1.3 South Delta
- 1.4 Central and West Delta

Ecozone 11: Eastsize Delta Tributaries
- 11.1 Cosumnes River
- 11.2 Mokelumne River
- 11.3 Calaveras River

Bay Region
Ecozone 2: Suisun Marsh & North San Francisco Bay
- 2.1 Suisun Bay & Marsh
- 2.2 Napa River
- 2.3 Sonoma Creek
- 2.4 Petaluma River
- 2.5 San Pablo Bay

Multi-region (independent of specific site)
- Code 15: Landscape

Outside ERP Ecozones
- Code 16: Inside ERP Geographic Scope, but outside ERP Ecozones

11. **Location - County** *(check all that apply)*

- Alameda	- Alpine	- Amador	**X** Butte
- Calaveras	- Colusa	- Contra Costa	- Del Norte
- El Dorado	- Fresno	- Glenn	- Humboldt
- Imperial	- Inyo	- Kern	- Kings
- Lake	- Lassen	- Los Angeles	- Madera
- Marin	- Mariposa	- Mendocino	- Merced
- Modoc	- Mono	- Monterey	- Napa
- Nevada	- Orange	- Placer	- Plumas
- Riverside	- Sacramento	- San Benito	- San Bernardino
- San Diego	- San Francisco	- San Joaquin	- San Luis Obispo
- San Mateo	- Santa Barbara	- Santa Clara	- Santa Cruz
- Shasta	- Sierra	- Siskiyou	- Solano
- Sonoma	- Stanislaus	- Sutter	- Tehama
- Trinity	- Tulare	- Tuolumne	- Ventura
- Yuba	- Yolo	- Other	

12. **Location - City**
Does your project fall within a city jurisdiction? - Yes **X** No
If yes, please list the city:

13. **Location - Tribal Lands**
    Does your project fall on or adjacent to tribal lands? - Yes **X** No
    If yes, please list the tribal lands:

14. **Location - Congressional District**
    Please show the congressional district where the project will take place. If you need help in finding this information, check the website provided by the United States House of Representatives.

    Congressional District **2**

15. **Location - California State Senate District & California Assembly District**
    Please show the California State Senate District and California Assembly District Numbers where the project will take place. If you need help in finding this information, check the website provided by the California State Senate. Both the senate district and the assembly district locations will be given to you at the same time.

    California State Senate District Number (e.g., 4) **1**

    California Assembly District Number (e.g., 22) **3**

16. **How many years of funding are you requesting?** (You may request up to 3 years of funding.)

3 years

17. **Requested Funds:** *(If the answer to 17a is yes, provide State overhead rate and corresponding Total State Funds, and Federal overhead rate and corresponding Total Federal funds. Leave the remaining two boxes of 17a blank. If the answer to 17a is no, provide the Single overhead rate and Total requested funds. Leave the first four boxes of 17a blank.)*

    a. Are your overhead rates different depending on whether funds are state or federal?
    - Yes **X** No

    If yes, list the different overhead rates and total requested funds.

    State overhead rate (%):
    Total State Funds:
    Federal overhead rate (%):
    Total federal funds:

    If no, list single overhead rate and total requested funds.

    Single overhead rate (%): **25**
    Total requested funds: **$2,603,377**

b. Do you have cost share partners already identified? **X** Yes **-** No
If yes, list partners and amount contributed by each:

Partner	Amount Contributed
USFWS-AFRP	$50,000

c. Do you have potential cost share partners? **X** Yes **-** No
If yes, list partners and amount contributed by each:

Partner	Amount Contributed
The David and Lucile Packard Foundation	estimated to be up to $260,337

d. Are you specifically seeking non-federal cost share funds through this solicitation? - Yes **X** No
If yes, list total non-federal funds requested:

If the total non-federal cost share funds requested above does not match the total state funds requested in 17a, please explain the difference:

18. **Is this proposal for next-phase funding of an ongoing project funded by CALFED?**
- Yes **X** No

If yes, identify project number(s), title(s) and CALFED program (e.g., ERP, Watershed, WUE, Drinking Water).

Number	Title	Program

Have you previously received funding from CALFED for other projects not listed above? X Yes **-** No

If yes, identify project number(s), title(s) and CALFED program.

Number	Title	Program
97-NO2	Ecosystem and Natural Process Restoration on the Sacramento River: Floodplain Acquisition and Management	ERP
97-NO3	Ecosystem and Natural Process Restoration on the Sacramento River: Active Restoration of Riparian Forest	ERP
97-NO4	Ecosystem and Natural Process Restoration on the Sacramento River: A Meander Belt Implementation Project	ERP
98-F18	Floodplain Acquisition, Management and Monitoring on the Sacramento River	ERP
2000-F03	Floodplain Acquisition and Sub-Reach/Site Specific Management Planning: Sacramento River (Red Bluff to Colusa)	ERP

19. **Is this proposal for next-phase funding of an ongoing project funded by CVPIA?**
X Yes - No

If yes, identify project number(s), title(s) and CVPIA program (e.g. AFRP, AFSP, b(1) other).

Number	Title	Program
1132-0-G014	Singh Walnut Orchard	AFRP

Have you previously received funding from CVPIA for other projects not listed above? X Yes - No

If yes, identify project number(s), title(s) and CVPIA program.

Number	Title	Program
00FG200173	Acquisition of Southam Orchard Properties for Preservation of Riparian Habitat	Section 3406 (b) (1) "other"
1448-11332-7-G017	Hartley Island Acquisition	AFRP
11420-1-J114	Boeger/Ward Acquisition	Section 3406 (b) (1) "other"

20. **Is this proposal for next-phase funding of an ongoing project funded by an entity other than CALFED or CVPIA? -** Yes **X** No

If yes, identify project number(s), title(s) and funding source.

Number	Title	Funding Source

21. **Please list suggested reviewers for your proposal.** (optional)

Name	Organization	Phone	Email

22. **Comments**.

Ecosystem Restoration Program - 2002 Proposal Solicitation Package (PSP): Form II - Executive Summary

Proposal Title: Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

Please provide a brief but complete (about 300 words) summary description of the proposed project; its geographic location, project type, project objective, approach to implement the proposal, hypotheses and uncertainties, expected outcome and relationship to CALFED ERP and/or CVPIA goals.

The Nature Conservancy (TNC) requests $2,603,377 to complete Phase II of a four-phase project to protect and restore 311 acres of flood-prone, ecologically significant land located within the Sacramento River Conservation Area at the confluence of the Sacramento River, Big Chico and Mud Creeks at river miles 194-195. The Anadromous Fish Restoration Program funded Phase I of this project, floodplain management planning. Phase II's objective, the subject of this proposal, is to protect and complete restoration and management planning for three properties located in Butte County. Under Task 1, TNC will acquire two of the properties identified from willing sellers. Under Task 2, TNC will complete baseline assessments, and draft restoration designs and management plans for the two acquired properties and a property already in conservation ownership. Stakeholder outreach that began under Phase I will continue throughout Phase II.

In the long-term, this project will allow us to better understand the effects of restoration on tributary systems in lowland alluvial river systems. This project will test the hypothesis that restoration improves the ecological health of the streams in the project area as evidenced by changes in chemical and physical habitat characteristics and benthic macroinvertebrate and fish communities.

The expected outcomes for Phase II of this project will be the acquisition and completion of restoration and management plans that include stakeholder input for flood-prone land located at the confluence of the Sacramento River, Big Chico and Mud Creeks.

The following ERP goals are addressed by this proposal: Goal 1 – recovery of at-risk species; Goal 2 – rehabilitate natural processes; Goal 4 – protect and restore riparian habitat; and Goal 6 – improve water quality.

The following CVPIA goals and AFRP objectives are addressed by this proposal: (1) protect, restore, and enhance fish, wildlife, and associated habitats in the Central Valley; (2) improve habitat for all life stages of anadromous fish; and (3) involve partners in the implementation and evaluation of restoration actions.

Ecosystem Restoration Program - 2002 Proposal Solicitation Package (PSP): Form III - Environmental Compliance Checklist

Successful applicants are responsible for complying with all applicable laws and regulations for their projects, including the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).

Any necessary NEPA or CEQA documents for an approved project must tier from the CALFED Programmatic Record of Decision and Programmatic EIS/EIR to avoid or minimize the projects adverse environmental impacts. Applicants are encouraged to review the Programmatic EIS/EIR and incorporate the applicable mitigation strategies from Appendix A of the Programmatic Record of Decision in developing their projects and the NEPA/CEQA documents for their projects.

1. **CEQA or NEPA Compliance**
   a. Will this project require compliance with CEQA?

      X Yes - No

   b. Will this project require compliance with NEPA?

      X Yes - No

   c. If neither CEQA or NEPA compliance is required, please explain why compliance is not required for the actions in this proposal.

2. **If the project will require CEQA and/or NEPA compliance, identify the lead agency(ies). Please write out all words in the agency title other than United States (use the abbreviation US) or California (use the abbreviation CA). If not applicable, put None.**

   CEQA Lead Agency: To be determined
   NEPA Lead Agency (or co-lead): To be determined
   NEPA Co-Lead Agency (if applicable):

3. **Please check which type of CEQA/NEPA documentation is anticipated.**

   CEQA
   - Categorical Exemption
   - Negative Declaration or Mitigated Negative Declaration
   X EIR
   - none

NEPA
- Categorical Exclusion
X Environmental Assessment/FONSI
- EIS
- none

If you anticipate relying on either the Categorical Exemption or Categorical Exclusion for this project, please specifically identify the exemption and/or exclusion that you believe covers this project.

4. **CEQA/NEPA Process**
   a. Is the CEQA/NEPA process complete?
   - Yes **X** No - Not Applicable

   b. If the CEQA/NEPA process is not complete, please describe the dates for completing draft and/or final CEQA/NEPA documents.

CEQA/NEPA documentation will be started once funding agencies have been identified.

   c. If the CEQA/NEPA document has been completed, please list document name(s):

5. **Environmental Permitting and Approvals**

Successful applicants must tier their project's permitting from the CALFED Record of Decision and attachments providing programmatic guidance on complying with the state and federal endangered species acts, the Coastal Zone Management Act, and sections 404 and 401 of the Clean Water Act. The CALFED Program will provide assistance with project permitting through its newly established permit clearing house.

Please indicate what permits or other approvals may be required for the activities contained in your proposal and also which have already been obtained. Please check all that apply. If a permit is *not* required, leave both Required? and Obtained? check boxes blank.

LOCAL PERMITS AND APPROVALS	Required?	Obtained?
Conditional use permit	-	-
Variance	-	-
Subdivision Map Act	-	-
Grading Permit	-	-
General Plan Amendment	-	-
Specific Plan Approval	-	-
Rezone	-	-
Williamson Act Contract Cancellation	-	-
Other	-	-

STATE PERMITS AND APPROVALS	Required?	Obtained?
Scientific Collecting Permit	-	-
CESA Compliance: 2081	-	-
CESA Compliance: NCCP	-	-
1601/03	-	-
CWA 401 certification	**X**	-
Coastal Development Permit	-	-
Reclamation Board Approval	**X**	-
Notification of DPC or BCDC	-	-
Other	-	-

FEDERAL PERMITS AND APPROVALS	Required?	Obtained?
ESA Compliance Section 7 Consultation	-	-
ESA Compliance Section 10 Permit	-	-
Rivers and Harbors Act	-	-
CWA 404	**X**	-
Other	-	-

PERMISSION TO ACCESS PROPERTY	Required?	Obtained?
Permission to access city, county or other local agency land. Agency Name:	-	-
Permission to access state land. Agency Name:	-	-
Permission to access federal land. Agency Name:	-	-
Permission to access private land. Landowner Name: The Nature Conservancy, Nicholas, Nock	**X**	**X**

6. **Comments.** If you have comments on any of the above questions, please enter the question number followed by a specific comment.

Ecosystem Restoration Program - 2002 Proposal Solicitation Package (PSP): Form IV - Land Use Checklist

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1. **Does the project involve land acquisition, either in fee or through a conservation easement?**

   X Yes **-** No

   If you answered yes to #1, please answer the following questions:

   a. **How many acres will be acquired?**

Fee	271
Easement	
Total	271

   b. **Will existing water rights be acquired?**

   X Yes **-** No

   c. **Are any changes to water rights or delivery of water proposed?**

   - Yes **X** No

   If yes, please describe proposed changes.

2. **Will the applicant require access across public or private property that the applicant does not own to accomplish the activities in the proposal?**

   X Yes **-** No

3. **Do the actions in the proposal involve physical changes in the land use?**

   - Yes **X** No

   If you answered no to #3, explain what type of actions are involved in the proposal (i.e., research only, planning only).

Planning and acquisition only

If you answered yes to #3, please answer the following questions:

a. **How many acres of land will be subject to a land use change under the proposal?**

b. **Describe what changes will occur on the land involved in the proposal.**

c. **List current and proposed land use, zoning and general plan designations of the area subject to a land use change under the proposal.**

Category	**Current**	**Proposed (if no change, specify "none")**
Land Use		
Zoning		
General Plan Designation		

d. **Is the land currently under a Williamson Act contract?** (For multiple sites, answer Yes if true for any parcel, and provide an explanation in the Comments box below)
- Yes - No

e. **Is the land mapped as Prime Farmland, Farmland of Statewide Importance, Unique Farmland or Farmland of Local Importance under the California Department of Conservation's Farmland Mapping and Monitoring Program?** For more information, contact the California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program (http://www.consrv.ca.gov/dlrp/FMMP/index.htm). (For multiple sites, answer Yes if true for any parcel, and provide an explanation in the Comments box below)
- Yes - No
If yes, please list classification:

f. **Describe what entity or organization will manage the property and provide operations and maintenance services.**

4. **Comments.**

Ecosystem Restoration Program - 2002 Proposal Solicitation Package (PSP): Form V - Conflict of Interest Checklist

Please list below the full names and organizations of all individuals in the following categories:

- Applicants listed in the proposal who wrote the proposal, will be performing the tasks listed in the proposal or who will benefit financially if the proposal is funded.
- Subcontractors listed in the proposal who will perform some tasks listed in the proposal and will benefit financially if the proposal is funded.
- Individuals not listed in the proposal who helped with proposal development, for example by reviewing drafts, or by providing critical suggestions or ideas contained within the proposal.

The information provided on this form will be used to select appropriate and unbiased reviewers for your proposal.

Applicant
The applicants entered on the Project Information form will be used.

Subcontractor
Are specific subcontractors identified in this proposal?
X Yes - No

If yes, please list the name(s) and organization(s):

Name	**Organization**
Jim Harrington	California Department of Fish & Game, Aquatic Bioassessment Laboratory
Ron Unger	EDAW, Inc.

Helped with proposal development
Are there persons who helped with proposal development?
X Yes - No

If yes, please list the name(s) and organization(s):

Name	**Organization**
Eric Ginney	Bidwell Environmental Institute, California State University, Chico
Sam Lawson	The Nature Conservancy
Marlyce Myers	The Nature Conservancy
Amy Hoss	The Nature Conservancy
Wendie Duron	The Nature Conservancy
Daryl Peterson	The Nature Conservancy
Dan Pickard	California Department of Fish & Game, Aquatic Bioassessment Laboratory
Daryl Peterson	The Nature Conservancy

Comments

Ecosystem Restoration Program - 2002 Proposal Solicitation Package (PSP):
Form VI - Budget Summary

To print this page, you will need to change your page setup setting to print the page landscape.

Budget Form Instructions

Please provide a detailed budget for each year of requested funds, indicating on the form whether the indirect costs are based on the Federal overhead rate, State overhead rate, or are independent of fund source.

- Federal Funds - State Funds X Independent of Fund Source

Year 1

Task No.	Task Description	Direct Labor Hours	Salary *(per year)*	Benefits *(per year)*	Travel	Supplies & Expendables	Services or Consultants	Equipment	Other Direct Costs	Total Direct Costs	Indirect Costs	Total Cost
1	Land Acq	261	8,803	3,389	0	0	30,000	0	250	42,442	10,611	**53,053**
2	Baseline Assmt/Planning	621	9,573	3,686	0	0	60,000	0	7,500	80,759	20,190	**100,948**
3	CEQA/NEPA	0	0	0	0	0	60,000	0	0	60,000	15,000	**75,000**
Proj Mgmt	Proj Mgmt	345	9,618	3,703	0	0	0	0	0	13,321	3,330	**16,651**
		1,227	**27,994**	**10,778**	**0**	**0**	**150,000**	**0**	**7,750**	**196,522**	**49,130**	**245,652**

Year 2

Task No.	Task Description	Direct Labor Hours	Salary *(per year)*	Benefits *(per year)*	Travel	Supplies & Expendables	Services or Consultants	Equipment	Other Direct Costs	Total Direct Costs	Indirect Costs	Total Cost
1	Land Acq	212	7,306	2,813	0	0	10,500	0	250	2,215,869	4,960	**2,220,829**
2	Baseline Assmt/Planning	621	10,016	3,856	0	0	39,500	0	2,500	55,872	13,968	**69,840**
3	CEQA/NEPA	0	0	0	0	0	0	0	0	0	0	**0**
Proj Mgmt	Proj Mgmt	310	8,709	3,353	0	0	0	0	0	12,062	3,015	**15,077**
		1,144	**26,031**	**10,022**	**0**	**0**	**50,000**	**0**	**2,750**	**2,283,803**	**21,944**	**2,305,746**

Year 3

Task No.	Task Description	Direct Labor Hours	Salary *(per year)*	Benefits *(per year)*	Travel	Supplies & Expendables	Services or Consultants	Equipment	Other Direct Costs	Total Direct Costs	Indirect Costs	Total Cost
1	Land Acq	59	2,171	836	0	0	0	0	250	3,257	814	**4,071**
2	Baseline Assmt/Planning	621	10,461	4,027	0	0	0	0	2,500	16,988	4,247	**21,236**
3	CEQA/NEPA	0	0	0	0	0	0	0	0	0	0	**0**
Proj Mgmt	Proj Mgmt	516	15,406	5,931	0	0	0	0	0	21,337	5,334	**26,672**
		1,196	**28,038**	**10,795**	**0**	**0**	**0**	**0**	**2,750**	**41,583**	**10,396**	**51,978**

Grand Total = **2,603,377**

Comments:
Indirect costs are not assessed on the estimated cost to acquire any real property, which cost is included in other direct costs.

Ecosystem Restoration Program - 2002 Proposal Solicitation Package (PSP): Form VII - Budget Justification

Budget Form Instructions

Direct Labor Hours. Provide estimated hours proposed for each individual.

Position Hours: Project Director II-70 hrs; Field Representative II-560 hrs; Program Assistant II-112 hrs; Conservation Planner-481 hrs; Science Specialist II-481 hrs

Salary. Provide estimated rate of compensation proposed for each individual.

Position Hourly Rate: Project Director II $48; Field Representative II $39; Program Assistant II $17; Conservation Planner $22; Science Specialist II $31

Benefits. Provide the overall benefit rate applicable to each category of employee proposed in the project.

38.5% for all categories

Travel. Provide purpose and estimate costs for all non-local travel.

None

Supplies & Expendables. Indicate separately the amounts proposed for office, laboratory, computing, and field supplies.

None

Services or Consultants. Identify the specific tasks for which these services would be used. Estimate amount of time required and the hourly or daily rate.

Estimates for Task 1 – Appraisals - $5,000 each Phase I Environmental Site Assessments - $2,000 each Surveys - $6,000 to $8,000 each Escrow Fees - $1,000 to $2,000 each Title Insurance Premiums - $2,000 to $4,000 each Estimates for Task 2 – Baseline Assessment - $60,000 total Stream Assessment (contract with California Department of Fish & Game) - $39,500 total Estimate for Task 3 – CEQA/NEPA documentation & permitting (contract with EDAW, Inc.) - $60,000 total

Equipment. Identify non-expendable personal property having a useful life of more than one (1) year and an acquisition cost of more than $5,000 per unit. If fabrication of equipment is proposed, list parts and materials required for each, and show costs separately from the other items.

None

Project Management. Describe the specific costs associated with insuring accomplishment of a specific project, such as inspection of work in progress, validation of costs, report preparation, giving presentatons, reponse to project specific questions and necessary costs directly associated with specific project oversight.

Project management activities will include contract management, report preparation, accounting, and inspection of work in progress. Field Representative II, Conservation Planner and Science Specialist II have budgeted a total of 1,171 hours over the three-year term of the agreement for project management activities.

Other Direct Costs. Provide any other direct costs not already covered.

Costs to conduct shareholder workshops & outreach - $7,500
Estimates of anticipated fees & permits charged by public agencies to complete Task 2 - $5,000
Other miscellaneous costs (i.e copying, etc.) - $750
Cost to acquire property at market value - $2,195,000

Indirect Costs. Explain what is encompassed in the overhead rate (indirect costs). Overhead should include costs associated with general office requirements such as rent, phones, furniture, general office staff, etc., generally distributed by a predetermined percentage (or surcharge) of specific costs. *[CORRECTION: If overhead costs are different for State and Federal funds, note the different overhead rates and corresponding total requested funds on Form I - Project Information, Question 17a. On Form VI - Budget Summary, fill out one detailed budget for each year of requested funds, indicating on the form whether you are presenting the indirect costs based on the Federal overhead rate or State overhead rate. Our assumption is that line items other than indirect costs will remain the same whether funds come from State or Federal sources. If this assumption is not true for your budget, provide an explanation on the Budget Justification form.]* Agencies should include any internal costs associated with the management of project funds.

The Nature Conservancy (TNC) has a Negotiated Indirect Cost Rate (NICRA) of 25% that was negotiated and approved by TNC's cognizant agency, USAID, and calculated in compliance with the requirements of OMB Circular A-122. TNC's indirect cost per the NICRA includes salaries, fringe benefits, fees and charges, supplies and communication, travel, occupancy, and equipment for general and administrative regional and home office staff. These costs are reflected in the Indirect Costs category of this proposal and are not reflected anywhere else in the proposal budget. Direct staff costs are reflected in the salary and benefits categories of the proposal budget. Indirect costs are not assessed on the estimated cost to acquire any real property, which cost is included in other direct costs.

Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

A. Project Description: Project Goals and Scope of Work

A.1. Problem

The Sacramento River is a fundamental state water source that drains 24,000 square miles of the northern Central Valley and supplies 80% of freshwater flowing into the Bay-Delta (CA State Lands Commission 1993). Historically, the river was lined by approximately 800,000 acres of riparian forest (Katibah 1984). Over 95% of this habitat has been lost, however, to selective logging, agriculture, urban development, and flood control and power generation projects. Cumulatively, these changes have greatly stressed the Sacramento River and associated species. The loss and degradation of riparian habitat has greatly diminished the river's ability to support viable wildlife populations and encouraged the invasion and proliferation of non-native invasive species. Two-thirds of the linear extent of the river's banks have been modified and confined by levees and riprap. Channelization, bank protection, and the construction of the Shasta Dam degraded riparian habitat along the Sacramento River by restricting the dynamic forces that promote natural habitat succession and regeneration.

Healthy riparian habitats contain a great number of flora and fauna due to the range of community types, overall structural diversity, availability of water and soil moisture, potential as corridors for migration, and critical breeding grounds (California State Lands Commission 1993, California Resources Agency 2000). Additionally, riparian corridors provide two primary functions essential to maintaining water quality: 1) moderating stream temperature and 2) reducing sediments and nutrients emanating from upland agriculture (Castelle *et al*. 1994). The loss of high-quality habitat and the decrease in water quality along the Sacramento River has caused many native species populations to become critically endangered. Important at-risk species include the Sacramento splittail, green sturgeon, chinook salmon, steelhead trout, western yellow-billed cuckoo, Swainson's hawk, least Bell's vireo, and Valley elderberry longhorn beetle (VELB) (CALFED Multi-Species Conservation Strategy 2000).

Although severely degraded, the Sacramento River is still the most diverse and extensive river ecosystem in California (California State Lands Commission 1993). In an effort to improve ecosystem health in the region, federal, state, and local governments, as well as non-government organizations, have begun to implement a series of ecosystem restoration programs along the river. In 1986, the California State Legislature passed Senate Bill 1086, which mandated the development of a management plan for the Sacramento River and its tributaries to protect, restore, and enhance fisheries and riparian habitat (California Resources Agency 2000). The Sacramento River Conservation Area (SRCA) non-profit organization formed (now known as the Sacramento River Conservation Area Forum (SRCAF)) and set as its primary goal the preservation of remaining riparian habitat and reestablishment of a continuous riparian corridor along the Sacramento River from Red Bluff to Colusa. In the 2002 Proposal Solicitation Package (PSP) for the Ecosystem Restoration Program (ERP), CALFED specifies developing and implementing habitat management and restoration actions in collaboration with groups such as the SRCAF as a priority for the Sacramento River region (SR-1).

Following the principles and guidelines of the SRCA Handbook, The Nature Conservancy (TNC) proposes to protect and restore 311 acres in an ecologically valuable area on the Sacramento River floodplain. The high ecological value of the proposed project location is, in part, a function of

the complex and dynamic hydrogeomorphic processes that characterize the area. Although some of these geophysical processes are still intact, the project area is, in general, highly degraded compared to its historical condition. Alterations have caused the streams to become deeply incised and simplified in their stream morphology. As such, they provide less habitat value to native riparian and aquatic species than they did in historical times when they were structurally more complex.

Acquisition and restoration planning activities in this proposal include conserving flood-prone properties, protecting remnant riparian forest, and planning future restoration activities. The work proposed provides an opportunity for understanding how tributary streams with varying physical and biological attributes respond to restoration activities. This restoration project presents unique and important research and monitoring opportunities.

Project Location

The proposed project is located in Butte County between river miles 194 and 195 (see Figure 1). The project area, along the east bank of the Sacramento River, encompasses the confluence of Big Chico Creek and Mud Creek, and just downstream, the confluence of Big Chico Creek and the Sacramento River. The project area currently contains agricultural lands, natural floodplain habitats, and a horticultural restoration site.

Upstream of the project area is the confluence of the Sacramento River and Pine Creek (see Figure 2). This area represents the northern most extension of the distributary channels which route flood waters from the Sacramento River east to Butte Basin. Historically, during times of high discharge, flows from the Sacramento, as well as those from neighboring tributaries, filled the Bosquejo Basin creating vast seasonal wetlands before draining south through the project area to rejoin the river at the Big Chico Creek confluence. Immediately downstream of the project area, floodwaters begin to leave the river along the east bank and flow into the Butte Basin. The alluvial fan of Big Chico Creek bounds the project area to the east, and to the west lies the meanderbelt of the Sacramento River. Lying at the intersection of these landforms, the project area historically hosted a rich assortment of habitat types in close proximity. These included backwaters, tule swamps, seasonal wetlands, oak woodlands, and mixed riparian forest (Ginney 2001).

Relevant Past Reports and Studies

Past reports and studies highlight the importance of this area from a restoration perspective. Tributary confluences such as those that flow through the project area are important junctures for many aquatic and terrestrial species during migration and dispersal (P. Maslin *et al*. 1999, Riparian Habitat Joint Venture 2000). Of particular importance is this project's potential to contribute to the recovery of native at-risk anadromous and resident fishes. Juvenile chinook salmon of four races (spring, fall, late fall, and winter run), steelhead trout, and non-game fish species (including Sacramento sucker, Sacramento pike-minnow, hardhead, hitch, tule perch, and Sacramento splittail) rear in the tributaries and on the seasonally-innundated floodplains flowing through or near the project area (P. Maslin, personal communication). Mud Creek is perhaps the most important non-natal rearing habitat for juvenile salmonids (particularly winter-run) along the middle Sacramento River (Maslin *et al*. 1999).

A recent study by Sommer *et al.* (2001) confirms the importance of tributaries bordered by low elevation floodplain as rearing habitat for native fishes. They found that juvenile chinook salmon rearing on inundated floodplains had increased growth rates and greater survival than salmon rearing in the mainstem of the river. They also found that invertebrates were more abundant in these habitats, and attributed the higher growth rates to increased prey consumption.

On the Sacramento River, Shasta Dam disconnects the mainstem of the river from its upstream tributaries, causing tributary streams below the dam, such as Mud Creek and Big Chico Creek, to have increased ecological significance. Tributaries such as these are important because they provide sediment, nutrients, large woody debris, and other organic materials to the mainstem river (Vannote *et. al.* 1980). Maslin *et al.* (1999) suggest that the preservation and restoration of intermittent stream habitat should be a priority in the Sacramento Valley especially given the amount of such habitat already lost.

Goals

Our project has four central goals:

1. Improve the ecological health and long-term viability of at-risk species and communities at a critical confluence area by protecting and restoring riparian habitat and rehabilitating floodplain processes through horticultural and process-based restoration.
2. Increase our knowledge of ecosystem function and employ adaptive management to improve our ability to engineer "desired future conditions" for riparian restoration projects that focus on lowland tributary confluence areas.
3. Reduce flood damage to important human infrastructure by increasing the storage of floodwaters in the project area.
4. Improve water quality to benefit humans and wildlife through the restoration of riparian vegetation communities, and geomorphic and hydrologic processes.

Objectives

This is a four-phased project that involves: 1) cooperative integrative floodplain management planning; 2) land acquisition, baseline assessment, and restoration planning; 3) restoration implementation; and 4) research and monitoring. In this proposal we seek funds only for Phase 2 of this project--land acquisition, baseline assessment, and restoration planning. Phase 1 has been completed with funding provided by the Central Valley Project Improvement Act (CVPIA) Anadromous Fish Restoration Program (AFRP) and CALFED 97-NO2.

The specific objectives that we have set for the proposed Phase II of this project are:

1. Acquire fee-title interest of the properties specified in section B.6.
2. Conduct baseline assessments and integrate findings of earlier planning efforts to develop draft restoration designs and management plans.
3. Conduct additional stakeholder outreach activities and solicit stakeholder input in the restoration planning process.

Hypothesis

The proposed acquisitions, restoration planning, and associated research and monitoring will allow us to test the following hypothesis:

Restoration activities will improve the ecological health of the streams in the project area as evidenced by changes in chemical and physical habitat characteristics and benthic macroinvertebrate and fish communities.

A.2. Justification

This proposal continues a project that began under a grant from the Anadromous Fish Restoration Program (AFRP) of the U.S. Fish and Wildlife Service. The grant provided funds that enabled TNC to secure an option, conduct pre-acquisition due diligence activities, and complete a

limited baseline biological assessment and environmental survey for the Singh property (see Figure 1). It also funded a focal-area restoration assessment (Ginney 2001) of the larger confluence area surrounding Big Chico Creek, Mud Creek, and the Sacramento River (see section B.3. for additional information on this assessment). AFRP staff indicated that initial assessments such as these are crucial steps in the restoration process. (J. Icanberry, personal communication). The initial assessment found that although the tributary streams and floodplain habitats that comprise the project area are currently degraded, they remain vitally important for a suite of native at-risk species, including anadromous fishes. Additionally, the assessment found the area has great potential for ecological revitalization given that some of the natural processes are still maintained in the area and that the topographic and stratigraphic diversity of the upland areas are still relatively intact (Ginney 2001).

This proposal is submitted as a full-scale restoration project as defined by the Sacramento River Ecological Management Zone Vision--the acquisition, in fee-title or easement, of riparian lands within the meander zone of the Sacramento River between Red Bluff and Colusa is categorized as having a sufficient certainty of success to justify full implementation in accordance with program priorities and staged implementation (CALFED Ecosystem Restoration Program Plan (ERPP) Vol. II, 2000). The CALFED Draft Stage 1 Implementation Plan sets as restoration priorities the development and implementation of restoration actions in collaboration with the Sacramento River Conservation Area Forum (SRCAF), as well as the restoration of fish habitat, particularly for spring-run chinook salmon and steelhead trout (p. 57). A portion of the properties proposed for restoration fall within the SRCA "inner river zone" (IRZ), an area along the river that is prone to erosion and flooding (California Resources Agency 2000). Given voluntary landowner participation, the SRCAF has stipulated that areas within the IRZ should be prioritized for preservation (California Resources Agency 2000).

The lands proposed for restoration border remnant riparian areas currently owned by the State of California, and managed by the Department of Parks and Recreation (DPR) as a portion of the Bidwell-Sacramento River State Park. Following acquisition and restoration, the properties are expected to be placed under long-term ownership with the DPR for addition to the Bidwell-Sacramento River State Park.

We are not seeking funds in this proposal to test hypotheses that focus on terrestrial responses to restoration (this is the focus of a complementary proposal, # 171). Here we are seeking support for the collection of baseline data that will allow us to test how aquatic resources associated with tributary streams at a confluence area respond to restoration activities. The baseline assessment of ecological condition of the streams that flow through the project area fits well within the larger context of stream assessment work that is currently underway in the Great Central Valley. Concurrent stream assessment efforts will help us characterize the condition of the streams in the project area relative to other tributaries in the Valley, and ultimately relative to a projected reference condition. To ensure that our project is well coordinated with outside efforts we have partnered with James M. Harrington (Director of the California Department of Fish and Game's Aquatic Bioassessment Laboratory) to conduct the monitoring at out sites. Mr. Harrington is currently spearheading a project that is assessing stream condition at a suite of rivers and streams in the Central Valley and beyond.

Conceptual Model

Two conceptual models are provided to illustrate the anticipated changes at the project area after the proposed restoration activities in Phase III of the project are completed.

The first (Figure 3) illustrates the broad suite of factors that influence riparian ecosystem functioning and how these may be manipulated for the betterment of both humans and wildlife. Factors that combine to determine the state of a particular ecosystem include those of physical, biological and anthropogenic origin. In a river ecosystem, fluvial processes are especially important because they provide the input of energy and material needed to create and maintain riverine landscapes and associated biological communities (Poof *et al.* 1997, Kondolf 2000). Horticultural restoration techniques provide an important and established method for revegetating floodplain habitats in certain situations (Goodwin, *et al.* 1997, Griggs and Peterson 1997, Alpert *et al.* 1999), but are in themselves insufficient to maintain ecological integrity in systems where natural processes and floodplain topography have been highly altered. Such is the condition of many habitats along the Sacramento River's mainstem. Recognizing this, we anticipate planning for both horticultural and natural process restoration activities in the project area.

The second conceptual model (Figure 4) illustrates how stream morphology and associated vegetation may be expected to change through time at a channel cross section. The above schematic depicts the current situation with streams separated from orchards by levees and bank revetment, while the schematic below illustrates how the site may look many years from now if restoration activities are allowed to proceed. This figure also lists a subset of the benthic macroinvertebrate (BMI) metrics that may be calculated from data collected during the proposed stream assessments, and the anticipated direction of change in response to restoration. BMI species are useful indicators of stream health in that they exhibit variable and characteristic responses to a wide array of stressors (Plafkin et al. 1989, Klemm et al. 1990, Barbour et al. 1999). Because BMIs have relatively long life cycles (typically a year or more) and are relatively immobile, their community structure effectively integrates past conditions. Responses of other variables (water chemistry, physical habitat and fish) that will be monitored can similarly be tested from baseline data collected as part of the stream assessments. See section A.3. for details on protocols that will be followed to collect these data.

Testing Hypotheses and Reducing Uncertainty

Testing hypotheses of ecosystem response in restoration projects requires first and foremost that adequate and appropriate documentation of baseline conditions at the project site be completed (Gibbs et al. 1999). It also requires that sufficient time is allowed to pass for responses to be manifested and that subsequent data collection methodologies generate information that is analytically compatible with pre-existing data (Holl and Cairns 2002). The short (3 year) time frame of this grant will not be sufficient to test the hypothesis we have posed, however, it will present us with an opportunity to assess baseline conditions at the site. In the short term, this assessment will be used to inform restoration planning. In years to come, following full-scale restoration implementation, the assessment will be used again, this time in analyses of how stream conditions have changed through time and in relation to imposed restoration activities. Although we are not currently seeking funds to conduct the long-term response monitoring that will be required to test our hypothesis, it is our intention to do so in the future.

Adaptive Management

Over the past 13 years, TNC has worked to implement many of the conservation initiatives outlined in the SRCA handbook (California Resources Agency 2000). TNC has planted a suite of native woody species, trees and shrubs, and more recently, forbs and grasses, on over 2,800 acres of floodplain habitat in an effort that may represent the most extensive replicated horticultural

restoration ever undertaken anywhere. Concurrently, TNC and its partners have taken significant steps to restore natural river processes through removal of levees and bank protection to restore a limited meander and to reconnect the river to its historic floodplain. Restoration of both riparian habitats and river processes requires an adaptive management approach.

The restoration designs that our project develops are the products of an integrative adaptive management process that draws from extensive past experiences in planning, implementing, managing and evaluating restoration on the Sacramento River. We are continually refining our restoration planning methodologies by incorporating information from past experiences into a multifaceted adaptive management process. Information that feeds into this process includes a variety of perspectives on restoration outcome. Ecological appraisals of restoration success come from our Research and Monitoring program, which focuses on ecosystem response monitoring and ecosystem function modeling. Societal appraisals of our restoration work come from our coordinated floodplain management planning program which gathers stakeholder feedback and evaluates restoration management actions from the standpoint of their impacts on important human services (e.g., flood control and water quality) and infrastructure (e.g., bridges and water-conveyance facilities). For further illustration of how our project's programs interface in an adaptive management context see section B.5. and Figure 5.

A.3. Approach

The proposed work is part of a four-phase project. Phase I (Cooperative Integrative Floodplain Management Planning) was completed in December 2001. Phase II (Land Acquisition, Baseline Assessment and Restoration Planning) is the subject of this proposal. Phase III (Restoration Implementation and Short-term Monitoring) is to be the subject of future fund raising efforts. Phase IV (Ecosystem Response Monitoring & Research) is an initiated program and the subject of continued fund raising efforts.

For this project, Phase I is completed. Through a grant from the Anadromous Fish Restoration Program (AFRP) of the U.S. Fish and Wildlife Service, TNC has been working on a conceptual restoration plan for this area that includes: focal-area environmental analysis, planning and stakeholder outreach. This plan was completed in December 2001. Also through this grant, an option was signed for the Singh property and initial due diligence activities were completed.

In addition to this focal-area planning, TNC has other planning efforts in progress that, once completed, will coordinate all management and restoration activities TNC conducts along the Sacramento River between river miles 178-206. TNC's other planning efforts, which are being partially funded under CALFED's 97-NO2 grant, involve an increase in the scope and scale of restoration planning to incorporate multiple uses and benefits on the floodplain as a whole. This additional planning process began in 1998 and to date has initiated the following tasks: 1) identifying the elements of baseline assessments to inform parcel-specific restoration plans (such as ortho-rectified aerial photography); 2) drafting a larger scale conceptual riparian vegetation model; 3) implementing geomorphic modeling; 4) implementing hydraulic modeling and conducting a geotechnical investigation for the Hamilton City area; and 5) conducting stakeholder meetings.

Phase II Tasks:

Task 1: Land Acquisition

Acquisition of the Nicholas and Nock properties include (See Figure 1 and section B.6. for a detailed description of the properties): obtaining appraisals; negotiating option agreements with landowners; conducting due diligence (environmental site assessments, surveys, title review,

property inspections); resolving any issues with the landowner; coordinating escrow and closing. After closing, the costs of acquisition will be invoiced per the grant agreement. The acquisition schedule will depend on the pace of successful negotiations, but if all due diligence matters are successfully resolved, the acquisitions are expected to be completed within the first two years of the date of the grant agreement. TNC will report progress to date and provide financial summaries quarterly.

Task 2: Complete Baseline Assessment and Restoration Planning

Baseline assessment prior to restoration activities includes: 1) conducting soil stratigraphy, 2) creating ArcView files on field boundaries, 3) determining current land use and ground cover, 4) utilizing GIS layers to evaluate topography, flood frequency, and bank erosion projections, 5) characterizing adjacent riparian communities, and 6) compiling wildlife records.

Baseline assessment will also include a characterization of the existing condition of the two tributaries that flow through the project area (Mud Creek and Big Chico Creek). Their existing condition will be characterized by analyzing data collected at the project site following protocols developed by the Environmental Assessment and Monitoring Program (EMAP) of the U.S. Environmental Protection Agency (EPA), and the Aquatic Bioassessment Laboratory (ABL) of the California Department of Fish and Game (CDF&G).

The EMAP protocols characterize a stream's biological and physical integrity through quantitative measurements of stream chemistry, physical habitat, and samplings of benthic macroinvertebrate (BMI) and fish communities. Chemical constituents to be analyzed are listed in Table 1, and a subset of the benthic macroinvertebrate indices that will be calculated are indicated on Figure 4. See Peck et al. (2001) for further details on EMAP sampling methodologies.

We will also collect data according to the California Stream Bioassessment Procedure (CSBP, Harrington 1999), a standardized protocol for biological and physical/habitat conditions in wadeable streams in California. The CSBP was developed by the ABL, and is a regional adaptation of the EPA's Rapid Bioassessment Protocols (Barbour et al. 1999). Although the data that are generated following the CSBP protocols are less amenable to quantitative analyses and hypothesis testing than the data that are produced following EMAP protocols, the former may be of greater utility in providing a comparison with how the sites studied in this project area compare with other rivers and streams in the north Central Valley. This is because a number of sites in this area were recently (1999 and 2000) sampled following CSBP methods (LWA 2002).

A total of seven sites will be sampled during the baseline assessment phase: two within the project area along each of the creeks, one above the project area on each of the creeks, and one below the project area, past the confluence of Mud and Big Chico Creek. Sites will be sampled by CDF&G ABL field crews experienced with these protocols.

The restoration planning process utilizes information collected in the Phase I planning process and the baseline assessments as a foundation for a detailed unit plan for each proposed restoration site. Information in the unit plan will include location, background information, ecological objectives, management goals and plans, a three-year detailed schedule of activities, and figures (topographic, flood recurrence, plant design maps, and aerial photographs).

Task 3: Completion of CEQA and NEPA documentation

While completing the baseline assessments and unit plans, TNC will contract with EDAW, Inc. to complete any required CEQA and NEPA documentation, if necessary, and assist in obtaining required local, state or federal permits and approvals.

Project Management

During the three years of the grant agreement, TNC will oversee all phases of the project, including acquisition and related contracts for professional services. TNC will continue to participate in outreach activities, including presentations to the Sacramento River Conservation Area Forum (SRCAF) Board of Directors, membership on SRCAF committees, such as the Technical Advisory Committee and Payment in Lieu of Taxes Committee, participation in local landowner meetings (including the Sacramento River Reclamation District), and cooperation with local environmental organizations, other private and public agencies. Quarterly reports will be submitted for each task. As each task is completed for each property, the deliverables will be as follows: for Task 1 - copies of the deeds; for Task 2 - baseline assessments and unit plans; and for Task 3 – copies of any required CEQA and NEPA documentation, and any required local, state or federal permits.

Long-term Ownership

The State of California Department of Parks and Recreation (DPR) has expressed a desire to be the long-term owner and stewards of the Singh, Nock and Nicholas properties as additions to the Bidwell-Sacramento River State Park. The Singh and Nock properties are directly adjacent to the State Park and the Nicholas property is adjacent to the Nock property and across River Road from the State Park. TNC would be responsible for restoration and management planning and would work with local DPR staff to ensure that long-term plans for these properties will provide for appropriate public use consistent and compatible with the ecosystem restoration objectives of CALFED and the restoration and monitoring objectives of Phase III and Phase IV of this proposal and project. The properties would be transferred with the appropriate restrictions in place.

A.4. Feasibility

TNC has a proven track-record of placing land in conservation ownership. Along the Sacramento River, TNC has worked with public agencies and private organizations for over fifteen years to acquire conservation land within the Sacramento River Conservation Area. In the last four years, TNC's Sacramento River Project received and successfully implemented four CALFED grants that provided the funds to acquire, or place into conservation ownership, 2,324 acres and restore, or complete start-up stewardship activities, on 2,301 acres.

Each transaction described in this proposal involves a willing seller who is eager to complete the transaction. TNC has already purchased the Singh property and the owners of the Nock and Nicholas properties have signed letters of intent. Nock and Nicholas have granted to TNC access to their land to complete due diligence and baseline assessment activities. The three properties are described in more detail in section B.6.

This proposal includes budgeted items necessary to complete an Environmental Impact Report under CEQA and an Environmental Assessment under NEPA, as well as obtaining required local, state or federal permits and approvals, if necessary. As a non-governmental agency, TNC does not typically submit CEQA/NEPA documentation. The scope of work contemplated by this proposal and budget assumes the funding agency will be the lead agency for CEQA/NEPA documentation; TNC will work with the lead agency and provide information as needed. If additional CEQA/NEPA documentation, other than an Environmental Impact Report and an Environmental Assessment respectively, is required, additional funding will be necessary.

A.5. Performance Measures

The following are the performance measures for the objectives of the proposed project:

- *Acquire fee-title interest in two of the properties listed in this proposal.* The performance measure for this objective is the closing of escrow for two properties (currently owned by Nock and Nicholas). The baseline for this objective is that the properties are currently not in conservation ownership. The metric used for this performance measure is the completion of the following five steps necessary to complete each transaction: 1) obtaining an appraisal; 2) negotiating an option agreement with the landowners; 3) conducting due diligence; 4) resolving any issues with the landowner; and 5) coordinating escrow and closing. The target for this objective is to have the two properties acquired and in conservation ownership by the end of the three years of this proposed project.

- *Conduct baseline assessments and integrate findings of earlier planning efforts to develop draft restoration designs and management plans for each of the three properties listed in this proposal.* The performance measure for this objective is that the following characteristics of each property are investigated to complete each baseline assessment: 1) soil stratigraphy, 2) field boundaries, 3) current land use and ground cover, 4) estimate of topography, flood frequency, and bank erosion projections, 5) characteristics of adjacent riparian communities, and 6) wildlife records; and then an initial restoration and management plan will be developed for each of the three properties. The baseline for this objective is that this information is not yet known for these three properties and there are no existing restoration and management plan for these three properties. The metric used for this performance measure is the completion of the investigation of the six items listed above and the completion of baseline assessments and the development of restoration and management plans. The target for this objective is to have all six components of a baseline assessment collected for each of the three properties and have an initial restoration and management plan for each of the three properties by the end of the third year of the project.

- *Conduct stakeholder outreach to gather input.* The performance measure for this objective is to identify and meet with adjacent landowners of the three properties and other interested stakeholders to share restoration information and to gather input from them. The baseline for this objective is that an initial group has been identified; an initial stakeholder meeting took place on August 27, 2001. See section E. for more information. The metric used for this performance measure is the number of meetings held and the number of stakeholders engaged in the restoration process of these three properties. The target for this objective is to create a process where all interested stakeholders can engage in and contribute to the initial restoration plans for the three properties by the end of the three years of this proposed project.

Measuring Long-Term Performance

From a scientific perspective, the long-term performance of restoration would be assessed by directly examining how stream health changes through time at a restoration site. More specifically we will examine how stream chemistry, physical habitat, and benthic macroinvertebrate and fish communities change in the years following the completion of the active restoration phase of the project. This work complements a suite of past and ongoing studies (profiled in Golet et al. *in press*) that are characterizing how the ecosystem is responding to imposed management actions (including restoration) on the Middle Sacramento River.

A.6. Data Handling and Storage

Data collected as a result of this proposed project will be presented as reports, documents, and photos. TNC will maintain the collected data in its offices and provide requested documents when appropriate. Scientific data collected during the stream assessments will be archived by TNC's California regional office and within the archival systems of the U.S. Environmental Protection Agency's EMAP program and the Aquatic Bioassessment Laboratory of the California Department of Fish and Game. Appraisals, surveys, and other necessary documents related to pending real estate transactions are confidential and will be used by TNC without CALFED's prior approval to negotiate acquisitions. See also section F.

A.7. Expected Products/Outcomes

The expected outcome will be the completion of fee-title acquisition and restoration and management plans that include stakeholder input for 311 acres of flood-prone agricultural land located at the confluence of the Sacramento River, Big Chico Creek and Mud Creek. The expected work product for Task 1 will be appraisals, Phase I environmental site assessments, land surveys, title insurance policies and grant deeds. The expected work products for Task 2 will be a baseline assessment reports (including soil, vegetation, and stream condition assessments), and restoration and management plans. Task 3 will produce any necessary CEQA/NEPA documentation and permits as required by law.

In the long-term, this project will allow us to better understand the effects of restoration on tributary systems in lowland alluvial river systems. We intend to publish and communicate our results at conferences, workshops and in appropriate publications.

A.8. Work Schedule

TNC's acquisition of the proposed properties is expected within the first two years of the grant agreement. TNC will obtain appraisals, negotiate with the landowners, enter into option agreements, conduct due diligence (including the completion of environmental site assessments, land surveys, and title review), negotiate any outstanding issues with the landowners, and close, provided that all identified issues are resolved satisfactorily. Because negotiations associated with conservation purchases can be extensive, close of escrow may not occur until year three.

Baseline assessments (including the stream assessments) for each property will begin no later than the second year of the grant agreement. TNC expects that the restoration and management planning will continue throughout the three-year term of the grant agreement. Key Task 2 and 3 milestones for each property include the completion of baseline documentation reports and maps, a restoration and management plan, stakeholder outreach and input, and, satisfaction of CEQA and/or NEPA requirements, if applicable.

Full or partial funding for fee-title acquisition of the two properties is separable from the funding for restoration planning. The funding for the acquisition of each individual property, with or without the funding for restoration planning, is also separable. Additionally, the funding for the restoration planning for the Singh property, which has already been acquired by TNC, is also separable.

B. Applicability to CALFED ERP and Science Program Goals and Implementation Plan and CVPIA Priorities

B.1. ERP, Science Program and CVPIA Priorities

The primary focus of TNC's Sacramento River Project is to "develop and implement management and restoration actions in collaboration with local groups such as the Sacramento River Conservation Area Non-Profit Organization." (SR-1). TNC's Sacramento River Project originally submitted five coordinated, complementary proposals in response to the PSP. Each proposal was designed to stand-alone; however, together they accomplish habitat protection, habitat restoration, ecosystem processes, coordinated floodplain management, and habitat restoration monitoring to address CALFED's Implementation Plan goals and CVPIA priorities (Sacramento Region Restoration Priorities 1, 3, 4, 7, ERP Goals 1, 2, 4, 6, Key CALFED Science Program Goals and CVPIA Goals). This proposal, designed to protect and restore riparian habitat at the confluence of an important tributary area to the Sacramento River, specifically addresses many of the ERP, Science Program goals, and CVPIA priorities.

CALFED ERP Goals

By increasing riparian habitat by 311 acres in Butte County at the confluence of the Sacramento River, Big Chico Creek, and Mud Creek, this proposed project is designed to protect and restore the stream meander corridor between Red Bluff and Colusa (SR-1) and add riparian habitat to an ecologically important tributary area known to be important to the health and survival of juvenile salmonids and other sensitive aquatic species (SR-2). Both aquatic and terrestrial at-risk riparian species, as well as common riparian species, will benefit from protection and restoration of large expanses of habitat along the mainstem and at the confluences of tributaries to the Sacramento River (ERP Goals 1 and 4).

The restoration of the project area will allow natural processes of erosion and deposition (channel meander); will increase transport of spawning gravel to the main channel, an important factor in anadromous fish reproduction success; and, long-term, will provide additional large woody debris and improve in-stream complexity (SR-2 and SR-4, ERP Goal 2).

Replacing flood-prone agriculture with restored riparian habitat will decrease pesticide and herbicide applications on land adjacent to the river, thereby increasing water and sediment quality. Additionally, restored riparian forests will buffer and filter toxic and organic matter that originate further away from the river, thereby further enhancing water and sediment quality (ERP Goal 6).

CVPIA Priorities

The proposed project addresses the following CVPIA goals and AFRP objectives:

- Protect, restore, and enhance fish, wildlife, and associated habitats in the Central Valley and Trinity River basins of California
- Improve habitat for all life stages of anadromous fish by providing flows of suitable quality, quantity, and timing, and improved physical habitat
- Involve partners in the implementation and evaluation of restoration actions

Restoring complex riparian habitat in the project area will improve habitat for fish and wildlife. Fish benefit from complex riparian areas that become flooded at high flows, slow floodwaters down and provide refugia for young and juvenile fish. Additionally, large woody debris, a result of increased riparian habitat, provides food and cover for critical life stages of anadromous fish (Bryant 1983).

CALFED Science Program Goals

This project will help further the CALFED Science Program goals by defining how two lowland tributary streams with different biological and physical characteristics respond to imposed restoration activities. This analysis will provide a scientific basis for adaptively developing restoration principles and guidelines on floodplain habitats of the Great Central Valley. Additionally, the approach that we develop in data collection and hypothesis testing in this project may be transferable to restoration efforts elsewhere in California and beyond. Finally, this project will present additional, and as yet unspecified, research opportunities that will be taken advantage of by a multitude of scientists that are part of an informal Sacramento River Science Consortium. This group is currently engaged in studies that focus on a variety of disciplines in both the natural and social sciences (e.g., plant ecology, avian sciences, hydrology, geomorphology, socioeconomics). A subset of the studies that are currently underway on the Middle Sacramento River is provided by Golet et al. (*in press*).

B.2. Relationship to Other Ecosystem Restoration Projects

TNC's Sacramento River Project is part of a collaboration of public agencies and private organizations whose goal is to re-establish an approximately 30,000-acre riparian corridor with limited meander within the Sacramento River Conservation Area. This collaboration is formalized under a Memorandum of Agreement with project activities coordinated through the Sacramento River Conservation Area Forum. Public agencies and private organizations involved in the collaboration included the local governments, stakeholders, U. S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Parks and Recreation, California Department of Water Resources, U.S. Army Corps of Engineers, Riparian Habitat Joint Venture, Sacramento River Preservation Trust, Sacramento River Partners, Northern California Water Association, and the Farm Bureau, among others.

This proposal continues a project that began under a grant from the Anadromous Fish Restoration Program (AFRP) of the U.S. Fish and Wildlife Service to TNC with funding to:

- secure an option, conduct pre-acquisition due diligence activities, complete baseline biological assessments and environmental surveys, garner stakeholder input, and develop an interim restoration and management plan for the Singh property; and
- examine the confluence area of the Sacramento River, Big Chico Creek and Mud Creek surrounding the Singh property at a focal-area scale to identify restoration potential in the project area and establish context for restoration planning at the parcel level.

AFRP staff has been supportive of focal-area planning efforts, recognizing that this is perhaps the best way to gather important ecological data related to restoration potential, identify stressors in the area, and inform local interests, ultimately strengthening future efforts to acquire and restore important parcels of land along the Sacramento River and its tributaries.

The protection and restoration of the Singh, Nock and Nicholas properties will add 311 acres to 2,887 acres currently under conservation protection from river mile 199 to river mile 193 (see Figure 1). A long-term management plan prepared under CALFED 97-NO2 will provide a basis for coordinated management strategies and restoration implementation by managers of conservation lands between river miles 178-206, an area that encompasses this proposal's project area.

B.3. Requests for Next-Phase Funding

This proposal builds on earlier efforts that began with CVPIA-AFRP funding (USFWS Agreement #11332-0-G014) (see section B.2.). Completed tasks under the grant include: the acquisition of a signed option for the Singh property; pre-acquisition due diligence; the facilitation of a local stakeholder meeting conducted to discuss restoration plans within the project area; and a report that outlines baseline and ecological considerations with restoration alternatives for the project area (Ginney 2001). Please see Attachment A for a more detailed description of the biological assessment and restoration planning activities conducted under Phase I. Phase II is the subject of this proposal.

B.4. Previous Recipients of CALFED Program or CVPIA funding

To date TNC's Sacramento River Project has been awarded five CALFED and four CVPIA grants to further the goals of protection and restoration within the Sacramento River Conservation Area. Two grants focused on restoration planning, and the remaining seven grants have been used to plan and implement protection and restoration actions on approximately 3,114 acres. Project titles and numbers, specific accomplishments, and progress to date are summarized in Table 2.

B.5. System-Wide Ecosystem Benefits

TNC's Sacramento River Project works with public agencies and private organizations to restore a riparian corridor and limited river meander within Sacramento River Conservation Area. Four programmatic phases comprise TNC's Sacramento River Project synergistic approach to conservation implementation in an adaptive management framework (see Figure 5):

1. cooperative integrative floodplain management planning;
2. habitat acquisition and baseline assessment;
3. horticultural and process restoration; and
4. ecosystem response monitoring and research.

This framework furthers the goals of the following programs: Sacramento River Conservation Area Forum, Central Valley Project Improvement Act, Central Valley Habitat Joint Venture, Sacramento River National Wildlife Refuge, Department of Fish and Game's Sacramento River Wildlife Area, California Riparian Habitat Conservation Program, Riparian Habitat Joint Venture (Partners in Flight), and the Army Corps of Engineers Comprehensive Study.

Through our work with partners and stakeholders, this approach offers substantial system-wide ecosystem benefits. By using both horticultural and natural-process restoration in an adaptive management framework, these collective efforts are successfully restoring the viability of native species and reducing the proliferation and adverse impacts of non-native invasive species. Specifically, the effort to establish a continuous riparian corridor along the Sacramento River is already improving the health of local wildlife populations by promoting the recolonization of areas where local extirpations have taken place. Several taxa, including the state threatened yellow-billed cuckoo and the federally threatened Valley elderberry longhorn beetle, have colonized and successfully bred on restoration sites.

The ecological benefits of our restoration activities extend far beyond the reaches of the project area. For many species the mainstem of the Sacramento River is a migratory pathway. By making the habitat in this region more supportive of migratory species this project will bolster breeding and wintering populations in areas physically removed, but ecologically linked to the Sacramento River. Examples include the habitat benefits to neotropical migratory birds and

anadromous fish. Additionally, improvements in water quality as a result of restoration efforts have positive impacts all the way down the Sacramento River into the Bay-Delta.

B.6. Additional Information for Proposals Containing Land Acquisitions

Acquisition Criteria

Before TNC considers whether it will acquire a property, the property must meet the minimum following criteria:

1. The landowner is a willing seller.
2. The property is located within the inner river zone (IRZ) of the Sacramento River Conservation Area (SRCA), within the project levee system, or along a priority tributary.
3. The property exhibits at least one of these characteristics:
    a. floodprone,
    b. eroding or erodable, or
    c. adjacent to other lands in conservation.
4. The property exhibits at least one of these biological characteristics:
    a. excellent habitat restoration potential,
    b. biological richness, or
    c. unique habitat characteristics, e.g. bank swallow colonies.

Ecological Criteria and Property Descriptions:

Each of the properties that are the subject of this proposal meet TNC's acquisition criteria. In addition, these properties collectively present a unique habitat opportunity because they are located at the confluence of the Sacramento River, Big Chico Creek and Mud Creek. The protection and restoration of these properties will increase the quality and quantity of essential spawning and rearing habitats and migratory pathways for chinook salmon, steelhead, Sacramento splittail, and other declining species. Longer-term ecological benefits include the protection and enhancement of the meander belt and associated floodplain of the Sacramento River. Important ecological processes that create and maintain natural channel and bank conditions will be restored, including sediment transport, channel erosion and deposition, and ecological succession. The properties that are the subject of this proposal are located across the Sacramento River from an area that has been identified as having high avian species richness (Point Reyes Bird Observatory, unpublished data). The protection and restoration of the properties contained in proposal will add 311 acres to 2,887 acres of existing protection and restoration from river mile 199 to river mile 193 (see Figure 1).

Singh

At the time of the original proposal submission, TNC had a signed option agreement to purchase the Singh property. Due to timing constraints, it was necessary for TNC to acquire the Singh property prior to the submission of a revised proposal. TNC paid for the Singh property with borrowed funds and is now pursuing permanent funding for the property. Funding for the acquisition of this property is not included in this proposal since it is not eligible to be considered under CALFED guidelines because the property has already been purchased by the applicant. Funding to complete baseline assessments and restoration and management plans is included in this proposal. The property is approximately forty acres and is located on the east bank of the Sacramento River, immediately east of River Road and approximately one-half mile north of Big Chico Creek. The

property is bordered by Mud Creek on the east, Bidwell-Sacramento River Sate Park on the south, and private fallow farmland to the north.

Nock

This approximately 125-acre floodprone property is located to the east of the Sacramento River, at the confluence of Mud Creek and Big Chico Creek. The property has existing shaded riverine aquatic habitat along Mud Creek and Big Chico Creek. The triangular shaped property is bordered by Mud Creek on the west, Big Chico Creek on the east, and a private orchard to the north. Approximately 103 acres of the property are planted to walnuts, with twenty-five acres planted in 1974 and the remaining seventy-eight acres planted in 1984. In addition, some seedlings were planted in 1997 to fill in holes in the orchard created by the growth pattern.

Nicholas

This approximately 146-acre floodprone property is located along the east bank of the Sacramento River, immediately east of River Road and approximately two miles north of Big Chico Creek. The property has historic channel topography and existing shaded riverine aquatic habitat along Mud Creek. The property is bordered by River Road on the west, Mud Creek on the east, private row crop farmland on the south, and a private orchard to the north. Approximately 104 acres of the property are planted to walnuts, ranging in age from seven-year old trees to twelve-year old trees. The property also contains a thirty-two acre almond orchard, planted approximately eleven years ago.

Willing Sellers:

The two properties that would be acquired with funding from this proposal are owned by willing sellers who have signed letters of intent with TNC and have granted TNC access to their land to complete due diligence and baseline assessment activities. Both sellers have attended stakeholder meetings, personally and through representatives, and are willing to write letters of support for acquisition funds.

County Zoning and General Plan:

The properties are zoned Agricultural with a 40 acre minimum area required. The properties are currently in agricultural and would remain so until restoration planning is complete and restoration funding is obtained. Butte County Agricultural Zones do not specifically mention the fallowing of agricultural land, habitat or restoration of habitat, however, seasonal hunting and fishing camps, and recreational uses not requiring permanent improvements and not interfering materially with agricultural operations, including hunting, fishing, camping, hiking, riding, and similar uses, are allowed accessory uses.

Butte County General Plan classifies the properties as orchard and field crops. Secondary uses in this classification include hunting and water-related recreation facilities, environmental preservation activities and public and quasi-public uses. The Butte County General Plan does not contain a separate classification for riparian habitat. Along with General Plan policies to protect agricultural land, Butte County also promotes policies to facilitate the survival of identified rare and endangered plants and animals, and encourage the creation and expansion of natural and wilderness areas. The intended use of the properties under this project fits within Butte County's General Plan policies and uses for environmental preservation, public uses, facilitation of the survival of identified rare and endangered plants and animals, and creation and expansion of natural areas.

Butte County is a signatory to the SRCA Memorandum of Agreement and both county appointees are active participants on the SRCAF Board of Directors.

Farmland Mapping:

The project area has not been published under the California Department of Conservation's Farmland Mapping and Monitoring Program, however preliminary mapping indicates that both the Nock property and the Nicholas property contain Class II (irrigated) soil.

Acquisition Opportunities:

The proposed acquisitions present unique opportunities to provide multiple benefits, including: riparian habitat and meander belt protection and restoration, flood damage reduction, and increased recreation. These properties are currently for sale. The majority of the proposed project area has a flood recurrence interval of 2.5 years or less, and the entire area lies within an area projected to flood every four years (California Department of Water Resources 2001) despite the presence of an extensive system of private and federal levees. If acquisition funds are not approved, the landowners risk further erosion and flood damage.

Acquiring conservation easements to accomplish the goals and objectives of CALFED and the SRCAF is not a viable alternative for the proposed project. The properties are located within the active meander zone of the Sacramento River, Big Chico Creek and Mud Creek; they are floodprone and eroding, and, as a result, the landowners wish to remove their agricultural operation to property that is less subject to persistent flooding. Other alternatives, such as acquiring narrow strips of riparian land, are not desired by the landowners, because the landowner would be left with a farming unit that is not economically viable. Additionally, neither easements or the sale of riparian strips would reduce the cost required to protect the landowner's agricultural investment from flooding. Finally, these alternatives are incompatible with a full-scale meanderbelt and floodplain protection and restoration project as stated in the Sacramento River Ecological Management Vision (ERPP Vol. II 2000) and the goals and objectives of the SRCA (California Resources Agency 2000).

C. Qualifications

The project will be conducted under the guidance and management of TNC's Sacramento River Project. The Sacramento River Project does not have any conflicts of interest or any potential problems with availability to do the proposed work within the proposed timeline.

The Nature Conservancy

TNC is an international non-profit corporation; our mission is to preserve the plants, animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. Founded in 1951, TNC and its one million members have safeguarded more than 11.6 million acres in the United States. TNC of California, headquartered in San Francisco, has 110,000 members and has protected nearly one million acres in the state.

TNC employs an integrated conservation framework called "Conservation By Design" to fulfill its long-term vision and achieve its goals. Conservation by Design directs the organization to systematically identify the array of places around the globe that embrace the full spectrum of the Earth's natural diversity; to develop the most effective strategies to achieve tangible, lasting results; and to work collaboratively to catalyze action at a scale great enough to ensure the survival of entire ecosystems (TNC Conservation by Design 2001).

Our strength and reputation are built on the policy and practice of applying the best conservation science available and of building partnerships to achieve mutual conservation goals. We respect the needs of local communities by pursuing strategies that conserve biological diversity while at the same time enabling humans to live productively and sustainably on the landscape. We know that lasting conservation success requires the active involvement of individuals from diverse backgrounds and beliefs, and we value the participation of individuals in the conservation of their communities and environments.

TNC's Sacramento River Project

Headquartered in Chico, California for more than ten years, the Sacramento River Project has a proven track record, having helped protected more than 18,000 acres of riparian land within the Sacramento River Conservation Area, and having restored more than 2,800 of marginal agricultural land along the Sacramento River to riparian habitats. An active participant in the SB 1086 process and now the Sacramento River Conservation Area Forum (SRCAF), TNC is collaborating with federal and state agencies, local government, landowners, and other stakeholders and nonprofit organizations to achieve the SRCAF goal of restoring a continuous riparian corridor with limited river meander between Red Bluff and Colusa.

The Sacramento River Project is organized into teams focused on planning, science, restoration, acquisition, government relations and outreach, and administration. Legal, finance, and government contracting are overseen by TNC's regional office in San Francisco. Overall project management is the joint responsibility of TNC's Central Valley Ecoregional Director, Sam Lawson, and TNC's Sacramento River Project Director, Dawit Zeleke. Sam Lawson has more than thirty years experience in community and economic development, transactional real estate, enterprise development, and organizational management. Dawit Zeleke has worked for TNC since 1992 and has managed the implementation of over 1,500 acres of native ecosystem restoration along the Cosumnes and Sacramento Rivers. Dr. Greg Golet, Senior Project Ecologist, oversees the planning, science, and restoration teams. Dr. Golet has received his Ph.D. in biology from U.C. Santa Cruz in 1999 and was a wildlife biologist for the U.S. Fish and Wildlife Service before joining TNC. He has extensive experience coordinating and conducting research in California and Alaska. Cathy Morris, Field Representative, and Ryan Luster, Restoration Coordinator, will manage the specific tasks outlined in this proposal. Ms. Morris obtained her Juris Doctorate in 1993 from the University of Iowa and has over nine years experience negotiating and completing real estate transactions. Mr. Luster (M.S. Rangeland Resources 2001) will oversee all restoration activities. Mr. Luster has worked on native ecosystem restoration projects since 1994.

California Department of Fish and Game's Aquatic Bioassessment Laboratory

The California Department of Fish and Game's Aquatic Bioassessment Laboratory (ABL) has extensive experience in freshwater macroinvertebrate taxonomy. Since its inception in 1993, the ABL has processed nearly 8000 samples of freshwater invertebrates from a diverse range of California habitats including wadeable streams, non-wadeable rivers, lakes and lagoons. The ABL created the California State Bioassessment Procedures (CSBP) and is a leader in establishing taxonomic standards for state-wide bioassessment efforts. The ABL is processing all California samples for the EPA's four-year western Environmental Monitoring and Assessment Project (EMAP), which requires species level taxonomy in Ephemeroptera, Plecoptera and Trichoptera and genus level identification of chironomids. The ABL currently employs six taxonomists, most of whom have had graduate-level training in the taxonomy and ecology of freshwater invertebrates.

They provide the taxonomic expertise required to support biomonitoring efforts throughout the state, and together have over 40 years of experience in identification of aquatic macroinvertebrates. The ABL is led by James M. Harrington, based in Rancho Cordova, who will oversee the stream assessment proposed in this proposal.

EDAW

EDAW has over fifty-five years of experience in environmental assessment and environmentally sustainable planning and design. EDAW has more than 20 offices worldwide, including 6 offices in California, and has prepared over 500 CEQA and NEPA documents for projects in northern California. EDAW has a diverse staff of environmental professionals, permitting and regulatory specialists, wetland and wildlife biologists, botanists and vegetation management specialists, restoration ecologists, cultural resources specialists, landscape architects, economists, recreation planners, and regional and urban planners.

D. Cost

D.1. Budget

Please see detailed budget and justification included in the web forms.

D.2. Cost-Sharing

TNC's Sacramento River Project is the recipient of a grant from The David and Lucile Packard Foundation that provides private funds to reimburse TNC for limited acquisition costs that are not covered by public or other private funding. The Packard Foundation has preliminarily approved a cost-share up to ten percent of total capital and non-capital acquisition costs for the properties, to be applied first to non-capital costs.

E. Local Involvement

TNC introduced the original submitted proposal to interested parties and continued to do so after proposal submission.

The original proposal was presented at the August 23, 2001, Sacramento River Conservation Area Forum (SRCAF) Board of Directors meeting. The original proposal was also presented at the SRCAF's Technical Advisory Committee (TAC) meeting on August 16, 2001 and again on September 19, 2001. In addition, TNC provided an update in the SRCAF Notes sent to approximately 650 individuals and organizations.

TNC discussed the revised proposal to be submitted for consideration as a potential directed action on May 16, 2002 at an SRCAF TAC meeting. After the revised proposal has been submitted, TNC will make another presentation to the SRCAF TAC and the SRCAF Board. TNC will continue to give regular updates to the SRCAF Board and interested SRCAF stakeholders throughout the directed action process concerning this proposal.

Butte County Supervisor and SRCAF Board member, Jane Dolan, was notified of the original proposal submission and the proposed revised submission. Michael Madden, Butte County Emergency Services Officer, was present on August 10, 2001, when TNC introduced the original proposal to the Sacramento River Reclamation District Board of Directors.

TNC presented the original proposal at two meetings to notify local organizations and landowners about the proposal. One meeting, the Sacramento River Reclamation District Board of Directors meeting, was held on August 10, 2001, and included local landowners in attendance. This

proposal was also discussed at a stakeholder meeting held on August 27, 2001. All landowners in the project area were invited and numerous landowners and other interested parties were in attendance. Local organizations represented at the stakeholder meeting include Sacramento River Preservation Trust and Big Chico Creek Watershed Alliance. TNC has met with adjacent landowners and informed neighbors of TNC's work in the project area. TNC will continue to listen to and address local government and private landowner concerns.

TNC is aware of potential third party impacts resulting from the conversion of agricultural lands to riparian habitat. To address this concern, TNC has contracted with the consulting firm of Jones and Stokes Associates to conduct a socioeconomic assessment that examines the potential costs and benefits associated with the acquisition and restoration of a riparian corridor along the Sacramento River between Red Bluff and Colusa. This assessment is funded under CALFED 2000-FO3. TNC will continue to work with the SRCAF Board of Directors and committees to address landowner and local concerns.

F. Compliance with Standard Terms and Conditions

See Table 3.

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CLICK HERE TO VIEW FIGURE 1
IN JPG FORMAT

CLICK HERE TO VIEW FIGURE 2
IN JPG FORMAT

Figure 3 Conceptual Model of Restoration Project

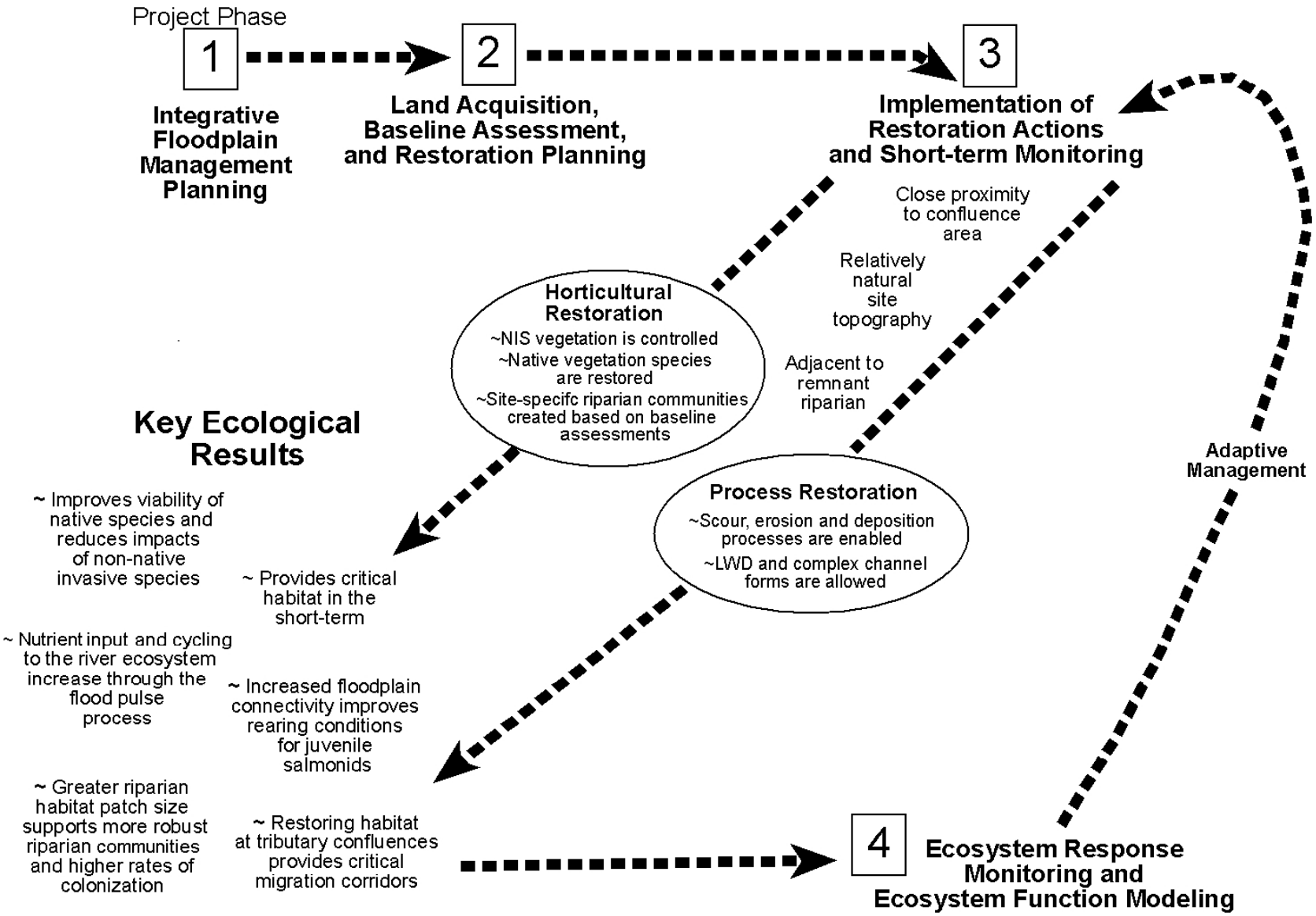
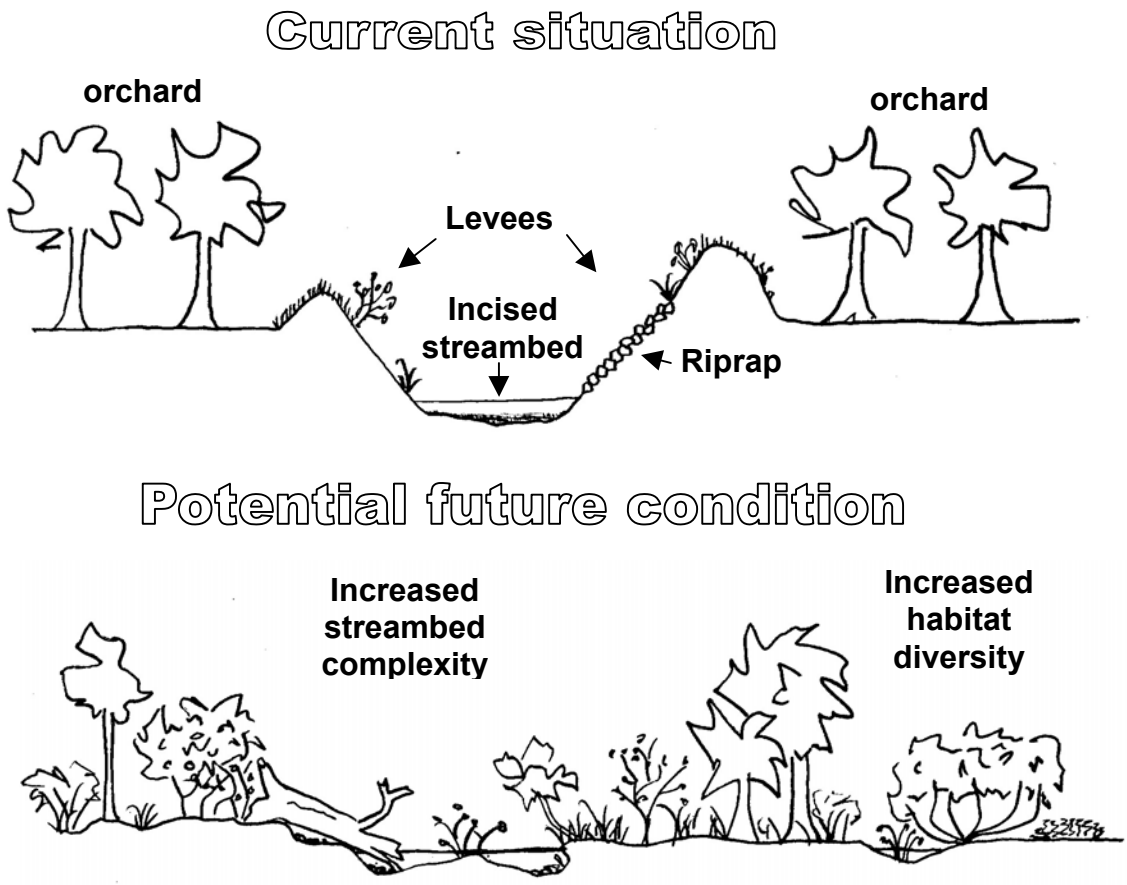


Figure 4: Conceptual Model of Tributary Restoration.



Response of Benthic Macroinvertebrate (BMI) Community Metrics to Restoration:

Increases are predicted in:	Decreases are predicted in:
• Taxa richness • (EPT) taxa • EPT index • Sensitive EPT index • Shannon diversity index • Percent intolerant organisms • Percent shredders	• Tolerance value • Percent tolerant organisms • Percent dominant taxa • Percent collectors • Percent filterers

Figure 5. Conceptual model of The Nature Conservancy's Sacramento River Project's programmatic structure.

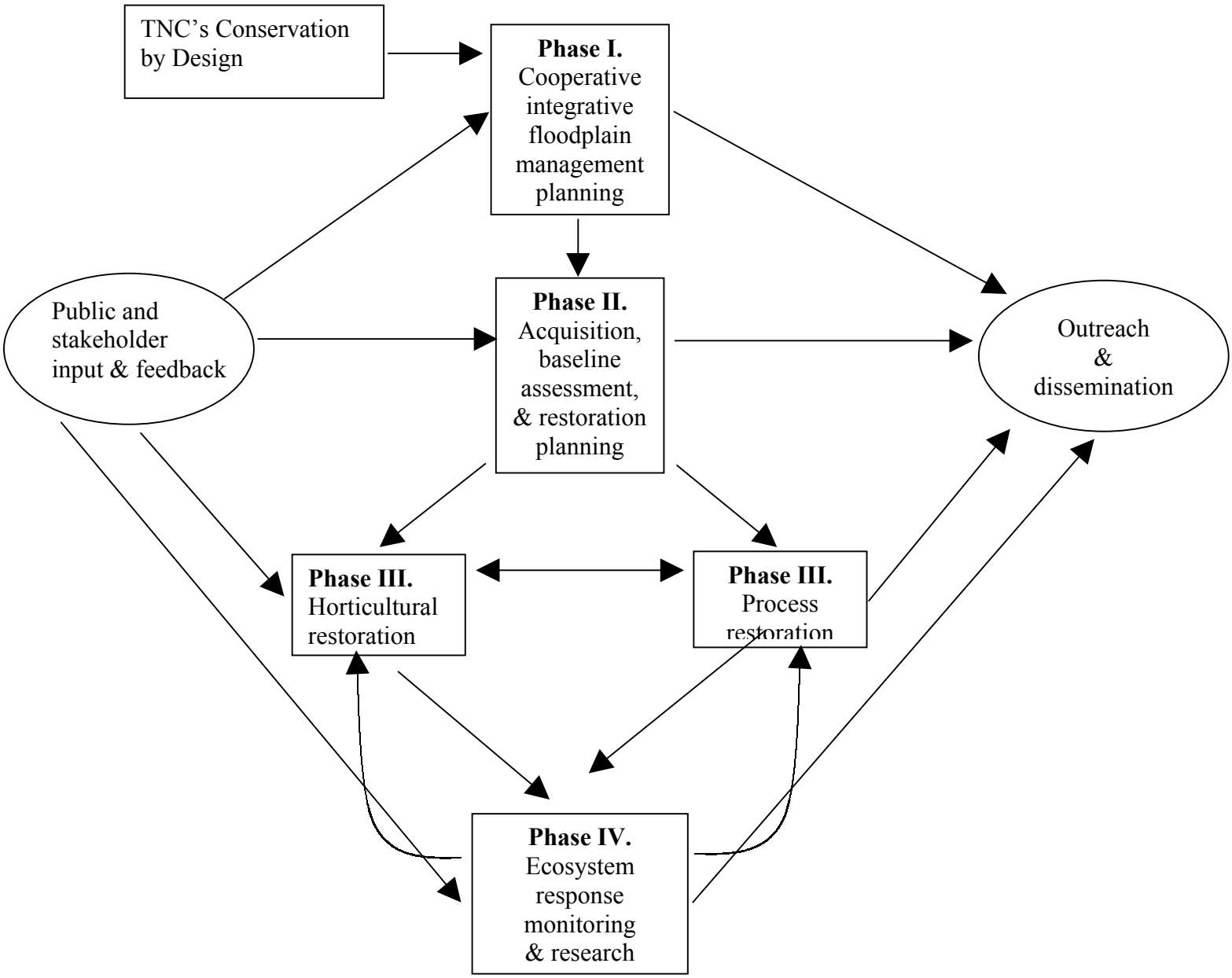


Table 1. Chemical constituents analyzed as part of the EMAP protocol.

pH, closed system	Ammonium
pH, equilibrated	Major Anions, dissolved (Cl,NO3,SO4)
Acid Neutralizing Capacity	Silica, dissolved
Carbon, dissolved	Phosphorous, total
Carbon, dissolved organic	Nitrogen, total
Conductivity	True color
Aluminum, total	Turbidity
Major Cations, dissolved (Ca,Mg,Na,K)	Total Suspended Solids

Table 2. Previous Recipients of CALFED Program or CVPIA funding.

Project Title	CALFED Program/ CVPIA Project	Term	Progress and Accomplishments	Status
Ecosystem and Natural Process Restoration on the Sacramento River: Floodplain Acquisition and Management	CALFED 97-NO2	1/1/98-12/31/01	Four properties along the Sacramento River totaling approximately 1,628 acres have been purchased (Kaiser, Dead Man's Reach, Gunnhill, RX Ranch). Task orders were approved to fund portions of the purchase of two additional properties: 238-acre Ward property purchased in April 2001, and 77-acre Clendenning property purchased in October 2001. Start up stewardship activities are underway, including preliminary hydrologic and geomorphic modeling that will help identify short and long-term conservation and management actions for these properties.	The acquisition terms of this grant have been completed. Restoration of 3 of the purchased properties is the subject of a 2002 CALFED proposal. A request was approved by CALFED for an extension of the term date and the shifting of funds under the agreement from Task 1 (direct acquisition costs) to Task 3 (Startup Stewardship) in order to complete the management and monitoring plans called for under Task 3.
Ecosystem and Natural Process Restoration on the Sacramento River: Active Restoration of Riparian Forest	CALFED 97-NO3 ERP	12/1/98-6/30/02	Site preparation and planting of two sites (River Vista and Flynn) to riparian habitat totaling 264 acres, as well as maintenance and monitoring activities, are complete.	Completed.
Ecosystem and Natural Process Restoration on the Sacramento River: A Meander Belt Implementation Project	CALFED 97-NO4 ERP	2/25/98-12/1/01	The 94-acre Flynn property and adjacent levee were purchased in December 1998. The levee was subsequently removed; as a result this site now supports one of the largest bank swallow colonies recorded on the Sacramento River. Restoration was implemented under CALFED 97-NO3 and 97-NO4 and is complete.	Completed.
Floodplain Acquisition, Management and Monitoring on the Sacramento River	CALFED 98-F18, FWS Agreement #11420-9-J074 ERP	7/20/99-6/30/02	Funding was awarded for the acquisition portion of this grant. The 104-acre Jensen property was purchased in July 2000, the 54-acre Hays property was purchased in May 2001, and partial funding was provided for the 129-acre Boeger property purchased in April 2002.	Completed.

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Project Title	CALFED Program/ CVPIA Project	Term	Progress and Accomplishments	Status
Floodplain Acquisition and Sub-Reach/Site Specific Management Planning: Sacramento River (Red Bluff to Colusa)	CALFED 2000-F03, FWS Agreement #11420-1-J001 ERP	6/1/01-5/31/03	Funding was awarded to implement the Sub-reach/Site Specific Planning portion of this proposal. Four tasks were identified to develop comprehensive conservation and management strategies for multiple benefits and uses of the river floodplain. Under Task 1, the Beehive Bend hydraulic analysis has been completed for RM 167-172. Under Task 2, a socioeconomic assessment for the riparian corridor of the SRCA between Red Bluff and Colusa has been drafted with involvement from SRCA, stakeholders and local governments, and will be sent out for public comment. Under Task 3, the final in a series of newsletters went out to all stakeholders; stakeholder meetings have been conducted; updates are regularly provided to the SRCA. Under Task 4, a report will be developed to inform future conservation and management actions for the Beehive Bend sub-reach based on information developed within Tasks 1 – 3.	During the first year of this 3-year grant, all tasks were initiated. Task 1 has been completed and other tasks are making good progress.
Acquisition of Southam Orchard Properties for Preservation of Riparian Habitat	CVPIA grant, BuRec Agreement #00FG200173 (b)(1)"other"	9/12/00-9/30/02	A portion of the grant was applied to the purchase of the 76-acre Southam property, purchased in July 2000. The remainder of the funding was applied to the purchase of the 238-acre Ward property purchased in April 2001.	Completed.
Hartley Island Acquisition	CVPIA grant, FWS Agreement #1448-11332-7-G017 AFRP	8/14/97-9/30/01	Funding was used toward the purchase of two parcels on Hartley Island, including the 321-acre Sandgren parcel. The remaining funds available were applied to the purchase of the 76-acre Southam parcel.	Completed.
Singh Walnut Orchard	CVPIA grant, FWS Agreement #11332-0-G014 AFRP	9/18/00-12/31/01	All tasks were completed for this pre-acquisition and planning grant including: pre-acquisition due diligence and signed option for Singh property, baseline assessment, and local stakeholder meeting to discuss restoration plans.	Completed. A report dated December, 2001 was submitted that outlined baseline and ecological considerations with restoration alternatives. Restoration of this property is the subject of a 2002 CALFED proposal.
Acquisition of Boeger and Ward Properties	CVPIA grant, FWS Agreement #114201J114 (b)(1)"other"	9/27/01-12/31/03	Funding was used toward the purchase of the 238-acre Ward property (purchased in April 2001) and the 129-acre Boeger property (purchased April 2002).	Acquisition activities under this grant have been completed. Sub-reach planning and baseline assessment activities, as well as draft restoration plans for both parcels will be completed and provided to USFWS and BuRec.

Table 3. Compliance with Standard Terms and Conditions

Attachment D, Section 3 ***Performance Retention***	TNC requests that the 10% retention not be required for capital costs.
Attachment D, Section 4 ***Expenditure of Funds***	TNC requests the following language which was negotiated and approved for the CALFED 2001 agreements with TNC: "Contractor shall expend funds in the manner described in the approved Budget. As long as the total contract amount does not increase, the Contractor may (1) decrease the Budget for any individual tasks by no more than 10% of the total task amount, on a cumulative basis, and increase the Budget for one or more task(s) by an equal dollar amount and (2) adjust the Budget between individual line items within a task by no more than 10% of the total task amount, for such task. Any other variance in the budgeted amount among tasks, or between line items within a task, requires approval in writing by CALFED or NFWF. All cumulative variances to approved Budget must be reported with each invoice submitted to NFWF for payment. The total amount to be funded to Contractor under this Agreement may not be increased except by amendment of this Agreement. Any increase in the funding for any particular Budget item shall mean a decrease in the funding for one or more other Budget items unless there is a written amendment to this Agreement."
Attachment D, Section 5 ***Subcontracts***	TNC requests the following language which was negotiated and approved for the CALFED 2001 agreements with TNC: "Contractor is responsible for all subcontracted work. Subcontracts must include all applicable terms and conditions as presented herein. An approved sample subcontract is attached as [an exhibit]. Contractor must obtain NFWF's approval prior to entering into any subcontract that will be funded under this Agreement, which approval shall not be unreasonably withheld if (1) contracted work is consistent with the Scope of Services and the Budget; and (2) the subcontract is in writing and in the form attached to this Agreement as [an exhibit]. Contractor must subsequently provide NFWF with a copy of the signed subcontract. Contractor must (a) obtain at least 3 competitive bids for all subcontracted work, or (b) provide a written justification explaining how the services are being obtained at a competitive price and submit such justification to NFWF with copy of the signed subcontract. Notwithstanding the foregoing, the CALFED Program has acknowledged that the Contractor generally does not use a subcontract for routine land appraisals, surveys, and hazardous materials reports. For these one-time services, Contractor uses a group of vendors on a regular basis and pays no more than fair market value for such services by one-time invoice rather than written contract. Contractor will not be required to obtain competitive bidding for such services or to provide any further justification to NFWF."
Attachment D, Section 9 ***Rights in Data***	TNC requests the following language which was negotiated and approved for the CALFED 2001 agreements with TNC: "All data and information obtained and/or received under this Agreement shall be publicly disclosed only in accordance with California law. All appraisals, purchase and sale agreements and other information regarding pending transactions shall be treated as confidential and proprietary until the transaction is closed. Contractor shall not sell or grant rights to a third party who intends to sell such data or information as a profit-making venture. Contractor shall have the right to disclose, disseminate and use, in whole or in part, any final form of data and information received, collected, and/or developed under this Agreement, subject to inclusion of appropriate acknowledgment of credit to the State, NFWF, to the CALFED Program, and to all cost-sharing partners for their financial support. Contractor must obtain prior approval from CALFED to use draft data. Permission to use draft data will not be unreasonably withheld. CALFED will not disseminate draft data, but may make draft data available to the public upon request with an explanation that the data has not been finalized."

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Attachment D, Section 11 ***Indemnification***	TNC requests the following language which was negotiated and approved for the CALFED 2001 agreements with TNC be added to the end of Section 11: ",provided, that Contractor shall have no indemnification obligations under this paragraph to the extent that any claim or loss is caused by the gross negligence or willful misconduct of the party seeking indemnification.
Attachment D, Section 13 ***Termination Clause***	TNC requests the following language which was negotiated and approved for the CALFED 2001 agreements with TNC: "Default and Remedies. In the event of Contractor's breach of any of Contractor's obligations under this Agreement, NFWF shall deliver to Contractor written notice which shall describe the nature of such breach (the "Default Notice"). If Contractor has not cured the breach described in a Default Notice prior to the expiration of the twenty (20) day period immediately following Contractor's receipt of such Default Notice, or, in the event the breach is not curable within such twenty (20) day period, Contractor fails to commence and diligently proceed with such cure within such twenty (20) day period, then Contractor shall be deemed to be in default under this Agreement, and NFWF shall have the right, after receiving approval from CALFED, to terminate this Agreement by delivering to Contractor a written notice of termination, which shall be effective immediately upon receipt by Contractor (the "Termination Date"). Upon and following the Termination Date, NFWF shall be relieved of the obligation under this Agreement to process any payments to Contractor for any work that has been performed prior to the Termination Date; however, NFWF shall continue to be obligated to process any payments to Contractor for work properly performed and invoiced in accordance with the terms and conditions of this Agreement prior to the Termination Date. In no event shall Contractor be required to refund to NFWF, CALFED, the Agency or DWR any of the funds that have been forwarded to Contractor under this Agreement, except as provided below: 1) If Contractor transfers any fee simple real property interest acquired by Contractor with funds provided under this Agreement without having obtained prior approval by the Agency, which approval shall not be unreasonably withheld, Contractor shall reimburse the Agency the sum received by Contractor for such fee simple real property interest, together with interest compounded semiannually starting from the date funds were disbursed by DWR pursuant to this Agreement, and including the date of default, at a rate equivalent to that which is being earned at the time of default on deposits in the State of California's Pooled Money Investment Account. 2) In the event of Contractor's default under Section Eleven, the Agency shall be entitled to receive one of the following remedies, at the Agency's election: a) reimbursement pursuant to the terms in Section Ten.I.(1); or b) conveyance by Contractor of a conservation easement to an entity that is authorized to acquire and hold conservation easements under Section 815.3 of the California Civil Code and is selected by the Agency (the "Easement"), together with a sum to CALFED which, when combined with the fair market value of the Easement, equals the sum granted to Grantee pursuant to this Agreement, together with interest compounded semi-annually starting from the date funds for the real property interest purchase were disbursed pursuant to this agreement, and including the date of default, at a rate equivalent to that which is being earned at the time of default on deposits in the State of California's Pooled Money Investment Account. The value of the Easement shall be determined by a fair market value appraisal approved by CALFED.
Attachment D, Section 16 ***Consideration***	TNC requests the following language which was negotiated and approved for the CALFED 2001 agreements with TNC: "Consideration. The consideration to be paid Contractor as provided in this Agreement, shall be in compensation for the performance by Contractor of Contractor's obligations under this Agreement.

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Attachment D, Section 24 ***Fair Market Value***	Section 24 may require revision depending upon the nature of the interest acquired by TNC.
Attachment D, Section 25 ***Use, Management, Operation, and Maintenance***	TNC requests the following language negotiated and approved for the CALFED 2001 agreements with TNC: "Any real property interests acquired with funds provided to Contractor under this Agreement shall be used, managed, operated and maintained in a manner consistent with the purpose of the acquisition. Contractor or its designee further assumes all management, operation, and maintenance costs associated with such real property interests, including the costs of ordinary repairs and replacements of a recurring nature, and costs of enforcement of regulations. Prior to restoration, Contractor shall submit plan to State for review and approval. The State shall not be liable for any cost of such management, operation, or maintenance which is not expressly set forth in the Scope of Services and/or the Budget attached to this Agreement, as amended from time to time in accordance with this Agreement."
Attachment D, Section 26 ***Transfer***	Section 26, may require revision depending upon the nature of the interest acquired by TNC.

Attachment A.

Section B.3. Request for Next-Phase Funding - Summary of Existing Project Status

The purpose of this four-phase project is the restoration of the confluence area of the Sacramento River, Big Chico and Mud Creeks. Phase I (Cooperative Integrative Floodplain Management Planning) evaluates the historic and current physical and ecological conditions of the land surrounding the confluences of Big Chico and Mud Creeks with the Sacramento River (the "project area"), and provides a conceptual analysis evaluating alternative restoration options within the context of the potential ecological condition, local infrastructure, and the willing participation of landowners in conservation programs (acquisition & restoration). Phase I data evaluation shows that the floodprone lands associated with tributary confluences of the mainstem of the Sacramento River are of high ecological significance; specifically, confluence areas support diverse, complex habitat communities including high quality riparian forest, valley oak riparian woodlands, sloughs, and backwaters that are important rearing habitat for native resident and anadromous fish species.

Phase I consisted of two parts: 1) initial site reconnaissance and assessment of baseline conditions, and 2) interim restoration and management planning. Both components utilized an ecosystem approach, with an eye toward preserving and restoring physical and ecological processes following the principles of the Sacramento River Conservation Area Handbook, and the "strategic 5S conservation planning strategy" (systems, stresses, sources, strategies, success) developed by TNC.

The Phase I baseline assessment evaluates the existing, historic, and potential distribution of the following priority ecological systems:

- Native anadromous and resident fish species
- Riparian neo-tropical migrant songbird guild
- Central Valley Riparian forest
- Central Valley Oak Riparian forest

The Phase I baseline assessment also identifies and addresses potentially important factors for conservation of tributary resources along the Sacramento River.

Phase I interim restoration and management planning included stakeholder input during the development process. Upon completion of initial site reconnaissance and the baseline assessment, TNC invited representatives of the following groups and agencies to attend a stakeholder meeting detailing initial results of the assessment: California Department of Fish and Game, Wildlife Conservation Board, U.S.F.W.S. Anadromous Fish Restoration Plan, CALFED, California State Parks, Sacramento River Conservation Area, Army Corps of Engineers, Sacramento River Preservation Trust, California Regional Water Quality Control Board, City of Chico, Butte County (Public Works, Board of Supervisors, Mosquito Control, and Emergency Services), the Big Chico Creek Watershed Alliance, and neighboring landowners. Input from these groups has been incorporated in the interim restoration and management plan.

The interim restoration and management plan addresses priority restoration elements, guiding principles, short-term and tentative long-term goals, management strategies, and potential third party impacts. The interim plan also includes conceptual restoration alternatives for reconnecting the creeks and the floodplain, and for creation and maintenance of streamside and aquatic habitats. Alternatives also include creation of buffer strips to improve water quality and increase allochonthus inputs for the benefit of anadromous fish populations.